A SUMMER DAY.

THE SUMMER-DAY BOOK OF PLEASANT & USEFUL READING.

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THE

SUMMER DAY BOOK;

CONTAINING

SKETCHES IN NATURAL HISTORY; PERSONAL ADVENTURES; SCENES OF FOREIGN TRAVEL; INFORMATION ON POPULAR SCIENCE; AND OTHER SUBJECTS SUITED TO INTEREST AND IMPROVE THE MIND.

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THE

SUMMER DAY BOOK.

THOUGHTS AND DIRECTIONS FOR JULY.

Occupations—Travellers—Beasts and Birds—Summer Fruits—Eating—Drinking—Rest.

This month is called July, after Julius Cæsar, who was born in it. The Saxons called it *hey-monath* or *hay-month*, because they usually mowed and made their hay in July. And taking New England together, there is much more hay of the first crop cut during this month than during June and August both. Rye is also harvested in July, and sometimes one or two kinds of wheat. The farmer labors very hard both in this month and in August, and the weather is very hot. There is a sense of heat and drooping all over nature. The birds are mostly silent. The little brooks are dried up. The earth is often parched. The corn leaves roll up during the day, but unfold themselves in the night. The oaks, which are freshest, because latest in leaf, appear of a deep green.

The traveller, as he passes through the country, delights to cut his way across, through fields and leafy lanes, where, nevertheless, the very flints sparkle with heat. The cattle get into the shade, or stand in the water during the day, and seek their food in the night, and at morning and evening.

Towards the end of July, the active and air cutting swallows, begin to assemble for migration, and seek their prey about the shady places, where insects seem to collect for coolness. And although the birds sing less than last month, the insects sing much more, especially the grasshopper. The bee, too, now and then sweeps across the ear with his gravest tone, and the gnat sounds his little trumpet.

Fruits begin to be abundant, in proportion as the summer heat seems to create a necessity for them: strawberries, currants, gooseberries, raspberries, and cherries These are all made for the use of man, or the other animals; but man, whose modes of life are so artificial, should use them with caution. Shun those, especially, which are unripe. Almost all the summer fruits of cities are unripe. They are brought to market in this condition, in order that they may be *early*, and thus secure a high price.

Of *ripe* fruits, strawberries are the best for July. Cherries are not quite so good. Currants are not good, unless fully ripe. Avoid green currants, even though cooked, as in pies, &c. They are wholly unfit to be eaten.

Fruits, though ever so ripe and wholesome, should not be taken immediately after a full meal, fashionable as it may be. Let them either form a part, or the whole of a light meal, or let them be taken between meals, at the farthest distance from them

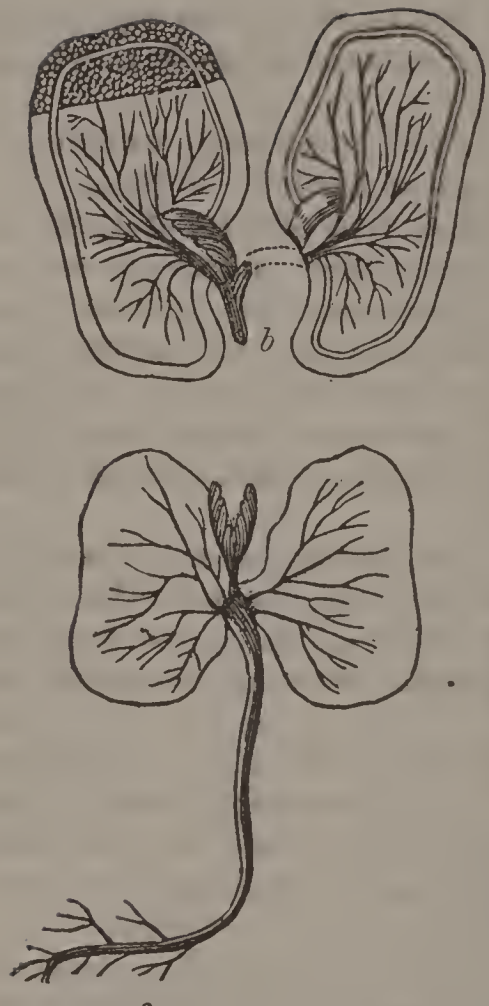
The stones of all fruits are more or less injurious, and should be avoided. So are the pods of peas, beans, &c.

Eat very sparingly of food, generally; especially of animal food. It is a great mistake of those who labor excessively hard, that they must eat more in proportion. The hunger they feel, in such cases, is a diseased hunger; not a *natural* one. Those who are inactive, in body, or mind, and those who are over active in either, should alike eat little. It is he whose body and mind are exercised moderately, and in due proportion to each other, that can eat the most freely.

Do not eat, at any rate, while greatly fatigued in body or mind; and, above all do not take spirits, or bitters, or vinegar, or mustard, or pepper, or ginger, or any thing of the kind, to *create* an artificial appetite. God's laws, operating in your bodily frames in such cases, demand rest, rather than food or drink. But if you drink at all, let it be in *small draughts* of cool,—but not *too* cold water. Avoid ice. A bit of toasted bread in your water, will often be useful.

In lying down for rest during the hot season, avoid currents of air; and the damp ground. Many laborers, who are troubled with rheumatism, in their old age, ought not to wonder what brought it on, unless they have very poor memories.

July is a proper season for bathing. And we refer our readers to an article on page 80.



GERMINATION OF PLANTS AND FLOWERS.

The Laburnum.—Bean.—Beach tree.—Fondness of roots for water
A singular supersuition.

Most readers, perhaps, have heard of the plant, called the *laburnum*. It is found in gardens, but is a native of Austria. It bears most beautiful bunches of yellow flowers; and when placed at the borders and corners of fields and gardens, is one of the noblest ornaments that can be found. Hares and rabbits are very fond of its bark, and are apt to gnaw it; but its seeds are bitter and poisonous.

We do not intend to give a particular description of the laburnum, in connection with this article. What we have said was merely to form an introduction to the following brief remarks on the germination, or sprouting of plants.

In the engraving above, *a* represents the bud of the laburnum greatly magnified. The bud is divided in the middle, and we look at the inside of one of the sections. It exhibits the growing flowers, arranged in regular order, just before their bursting into full and perfect existence. How wonderful the structure and the process! How worthy of the Divine Author!

At *b* we are shown, in like manner, the section of a bean, after it has begun to germinate. We see the commencement, both of the young root and the leaf. The latter points, as we perceive, downward.

The third figure, *c* represents the seed leaves, the root, and the first true leaves of the beech tree In this figure the root is extended much farther than in *b*. Every body may make these little experiments in botany for himself, by carefully dividing the unexpanded buds of the rose, the lilac, the horse chestnut, the walnut, the bean, and other large seeds, after they have been planted in moist earth just long enough to swell, but not long enough to shoot into a plant.

There is one thing very remarkable about the roots of plants and trees. It is, that they will not only always turn downward into the earth, which, of itself, is a very wonderful affair; but they will uniformly feel their way, as it were, towards moist places,—springs, brooks, &c. Thus, if a tree grows near a brook, you will find, on removing the

earth in which it is placed, that a very large proportion of its roots—sometimes almost all,—turn towards the stream.

Out of this fact, as we suppose, has arisen a very singular superstition; which is that if you break a small forked limb from certain trees, as the peach and the hazel, and take hold of the branches, holding one in each hand, with their united end upward, and walk about, whenever you come where there are springs near the surface of the earth, the united end of the limb will pull downward, and pull so hard upon your hands, in order to point towards the earth, that you will feel its force very sensibly. Now it is not the ignorant, alone, that run into this superstition, for we have seen some very intelligent and otherwise sensible people who believe in it.

The use made of this supposed knowledge, is in digging wells. We have seen men walking about, for some time together, with their crotched sticks in their hands, to find where the water approached nearest to the top of the ground. It happens that they do not always discover their error, by digging; for, as Providence has kindly ordered it, there is water in most parts of the earth, by digging far enough; and perhaps those who fall into this mistake are ready enough to conclude that although they do not find water *very near* the surface, yet they would probably be obliged to dig *still deeper*, elsewhere.

THE YEW TREE.

The yew tree is a native, not only of North America, but of Europe and Japan. The trunk and branches grow very straight, the bark is cast

Branch of the Yew Tree.

off every year, and the wood is hard, compact and elastic. It is therefore of great use in every branch of the arts in which firm and durable timber is required; and before the general use of firearms, it was in high request for bows. So much of it was required for the latter purpose, that all ships trading from England to Venice, were once obliged to bring with them a certain number of bow staves.

The yew was also held as sacred; one or more large yew trees being found in every church yard. In funeral processions, the branches were carried over the dead by mourners, and thrown under the coffin, in the grave. The following curious extract from the ancient laws of Wales, will show the value of these trees, and how the sacred or consecrated yew of the priests had risen in value over the reputed sacred misletoe of the Druids, those ancient priests of the island.

> "A consecrated yew, its value is a pound.
> A misletoe branch, three score pence.
> A yew tree, (not consecrated) fifteen pence."

At one period in the history of England, every man was directed to have a bow, of his own height, made of *yew*, *wych-hazel*, *ash*, or *laburnum*. And

though the use of bows, as weapons of war, has long since ceased there, yet archery is still followed as an amusement; and the best bows are from the yew tree.

This tree sometimes attains a prodigious size. One in Scotland is said to measure fifty six and a half feet in circumference, or about eighteen in diameter; another in Kent, England, twenty feet in diameter; and another in Buckinghamshire, in full health and vigor, *twenty seven!*

In the sixteenth and seventeenth centuries the odd custom prevailed of clipping yew trees in churchyards, in such a manner as to make them resemble birds and beasts. Two are found in Middlesex, England, whose branches are shaped every year something in the form of a peacock. The Romans, it appears, used to treat these trees in the same manner. Lord Bacon, in his quaint style, but with his usual good sense, thus protests against such practices: "I, for my part, do not like images cut out in juniper and other garden stuff; they be for children."

STREET EDUCATION.

Cruelty to animals—Effects of Alcohol—Going from market—Party spirit—Petty slander—Obscene pictures—An intolerant stage driver—The beggar—Street education in the country.

A writer in the "Annals of Education," some time since observed; "There is no escape from education." And he was doubtless correct, if we use the term in its largest sense. But if so, then the work of education must be going on in the *streets*, as well as elsewhere.

But what is the character of our *street education*?

What are its lessons? Are they judiciously adapted to the various ages and capacities of the pupils? Are they readily understood, and easily remembered? Are they of a practical kind, and are they well studied?

Let us consider the subject for a few moments. Let us, in imagination, pass through a certain street, which has a name, in one of our principal cities—a city famed above almost all others for its general intelligence, and correct morals—in which, *if any where*, the lessons of instruction are such as they should be. Let us have our eyes open to what passes, and take notes.

Here is a man with a load of wood. He rose early, and came to the city with the greatest possible despatch, to find an early and ready sale for his commodity. His oxen are much fatigued, and one pair, evidently ill fed, nearly exhausted. They not only afford no assistance to the other pair, but are rather in their way. He has come to a steep ascent, and the cattle, unable to go forward, have stopped. To urge them on, he has goaded and flogged, first one, and then the other, till he has nearly discouraged them all. Now he is in a passion, and not only beats them to no possible good purpose, but uses very rough language. Half a hundred boys, of all ages, besides a large number of adults, are looking on and taking lessons.

There is a foreigner, with a long beard, walking to and fro on the pavement, staring wildly and raving, and occasionally cursing and swearing. He is evidently an aged sailor,—probably a Russian,—and his grey head is frenzied with alcohol. See the group around him! In less than five minutes after he commenced his ambling and raving, there were hundreds of men and boys gaping at him, and

gathering round him, and the crowd is every moment rapidly increasing. What is the probable tendency of such lessons as this?

A stout, muscular citizen in expensive apparel, is walking home from market. Behind him is a slender, pale looking boy, carrying his basket, and the contents. The gentleman citizen is most evidently about as able to carry both the boy and the basket, as the boy to carry the basket. Every person in the street observes the strange appearance, except those who are so much accustomed to similar scenes, that they make no impression. But what is the lesson inculcated?

Yonder, on the side walk, at the corner, is a group of men, talking about banks, and deposits, and President, and Congress, and Webster, and Clay, and Van Buren, and what not? And there is another group, or rather a division of the same, talking long and loud about Colonization and Anti-Slavery.

Here is a company of well dressed, but careworn men, discoursing together about the 'failure' of Messrs. Wilkins, Wilkinson, & Co.—predicting who will "fail" next; and either directly or indirectly slandering the heads of more than a dozen of the most safe and respectable mercantile establishments in the whole city. A greater or smaller number of mere spectators stand listening to catch the words of the oracle of the company, and to take lessons in party politics, or petty scandal, as the case may be.

What is it which attracts and rivets the attention of those boys and sailors in that shop window? Nothing but a few ludicrous prints such as certain boys and men love to gaze at, and a few obscene pictures. Excellent teachers, these!—and an apt

class of pupils around them! They will not early or easily forget the lessons or the monitors.

Crash! crash! crash!—"Then get out of the way next time," vociferates a triumphing stage driver, glad of an opportunity of exercising, for the moment, his own authority. "*Uncle Sam* is not to be stopped by a handcart, I 'd have you to know." "I did not see you," says the poor man, as he collects the pieces of his broken cart; thankful that there are none of his bones among them. "Good! good!" say the eyes, and the smiles, and the cheers of from fifty to a hundred boys, some of them six feet high: and so they show themselves apt scholars; and their conduct in after life will doubtless prove that they have wonderful memories.

There stands a poor beggar, presenting his hat to all who pass by him, and in a most pitiful tone imploring them, out of their abundance, to impart their mite. Perhaps he is an unworthy receiver of the public charities; but suppose he is. Are the lessons of universal scorn and neglect, and passing by on the other side, likely to exert a beneficial tendency on the minds and hearts of the many classes of young learners?

These are a few specimens of street education, Mr. Reader. I am quite at a loss how you or your readers will like them. Let me say, however, that the lessons are by no means fictitious. There is a great deal more of truth and reality in them than I wish there was.

I do not pretend, by the way, that these are all the lessons which a city street affords. But the plain handcart man, or truckman, or ice carrier, or milk seller, who goes peaceably along about his business, and the citizen, who just winds his way among the crowd, from place to place, and says

little or nothing to any body; or if he does, can speak in a gentle voice, without profanity,—these, though they are lessons of a better kind, are not half so well attended to by the young, as the former.

Street education in the country, and even in villages and towns, Mr. Reader, is somewhat different from what it is in our larger cities. Still, even there, the bad lessons are often more numerous than the good, and always receive much more attention.

I should like to know, sir, how these lessons are to be avoided. If my son receives ever so valuable instruction at home and at school, and has ever so perfect examples set before him, their influence is, in a measure, neutralized by other lessons—lessons, too, which he is very apt to learn and retain —the moment he goes into the streets. To be sure I suppose he will resist their influence in some instances, for a time; but does not every one, sooner or later, become contaminated? Does not vice, when often exhibited to us, especially in youth, become more and more tolerable, till the moral sensibility becomes so much benumbed that we are in danger of being injured? I know, sir, that yours is not a work on education alone; but I observe that in catering for families, you have something to say on education, now and then, and I have therefore ventured, for once, to ask your indulgence.

COAL.

Different kinds of English Coal—Its nature—Strata—When first used in England—Its abundance.

Mineralogists have divided coal into three great families, namely, black, uninflammable, and brown; each of these being again subdivided into

a vast number of different species. No less than *seventy* different kinds of coal are imported into London, and *forty-five* of these come from Newcastle alone. All the common coals, such as cannel coal, slate coal, foliated coal, &c., belong to the black family.

Coal and wood, although very different in their appearance, are in their composition very nearly alike. Carbon, hydrogen, and oxygen, are the chief constituents of both. It is well known, that the gas employed for lighting the streets, is obtained by heating coal in close vessels. The hydrogen gas, or inflammable air combined with the coal, is driven off by the heat, and collected in vessels for the purpose. The substance which remains is called *coke;* and when wood is treated in the same manner, the residuum is called *charcoal.* They are both nearly pure carbon.

The fact is, that much of our coal is transformed wood, a great number of the mines being evidently the remains of forests. The species of plants and trees which formed the coal-beds can still be distinguished. They are also often found mixed up with the remnants of animals. The peat-mosses now existing on the surface of the earth, consist principally of vegetable remains in an early stage of transformation into the state of coal.

Beds or strata of coal occur amongst those of gravel, sand, clay, &c., of which the present surface of the earth is composed, and their accumulation must be ascribed to the agency of water. These strata, by long contact and pressure, became solidified into a rocky crust; and this crust, by repeated convulsions of the earth, of which there are abundant evidences, has been broken, and heaved up above the level of the sea, so as to form

the dry land, diversified into mountain and plain. Coal, as well as other precious minerals, was first discovered by man at the fractures of the strata, which may often be seen lying one above another like piled books. It was at last discovered that the mineral strata occur among themselves in regular succession, so that the discovery of one stratum is a sure indication that the other is lying near.

Coal was known in England in 852, but the first public notice of it occurs in the reign of Henry III. It was not, however, until the reign of Charles I. that it came into anything like common use. At the Restoration, the quantity imported to London annually, amounted to 200,000 chaldrons. At present it amounts to 1,600,000 chaldrons. A London chaldron in 26½ cwts.

A great evil existed until lately, that of selling coal by measure, instead of weight. A cubic yard of coal is nearly equal to thirty bushels; if broken into pieces of moderate size, it measures forty-five; and if broken small, fifty-four. Here the dealer had an opportunity of defrauding his customers, by pulverizing his coals. Parliament, however, has recently enacted that it must be sold by weight.

In South Wales, an almost exhaustless supply of coal and ironstone is said to exist, which is yet nearly unwrought. It has been stated that this coal-field extends over about 1200 square miles, and that there are 23 beds of workable coal, the total average thickness of which is 95 feet; and the quantity contained in each acre is 100,000 tons, or 64,000,000 tons per square mile. If from this we deduct one half for waste, and for the minor extent of the upper beds, we shall have a clear supply of coal equal to 32,000,000 tons per square mile. Now, if we admit that 5,000,000 tons from the

Northumberland and Durham mines is equal to nearly one-third of the total consumption of coal in England, each square mile of the Welsh coal-field would yield coal for two years' consumption; and as there are from 1000 to 1200 square miles in this coal-field, it would supply England with fuel for 2000 years, after all the English coal-mines are worked out!

If we add to the Welsh mines those of England and Scotland, they will be found collectively to contain fuel for more than 4000 years. Besides, coal is continually forming in the bowels of the earth, and it is very probable that long ere 2000 years have run the circle of the world, vast mines of it, now forming, will have reached a state of perfection.

The supply of coal in some parts of the United States, seems also at first view to be inexhaustible.

INDIAN VIRTUES AND VICES.

Temperance— Hospitality— Gratitude— Simplicity.—Gluttony — Intemperance—Quackery—Domestic misery—Neglect of family discipline.

In Professor Knowles's "Memoir of Roger Williams," we find the following testimony in favor of the virtue — or rather freedom from vice — of the New England Indians.

1. "Their only drink was water, until Europeans introduced among them the devouring curse of spirituous liquors."

2. They were "hospitable to strangers." This is very remarkable, when we consider what sentiments are commonly entertained on this subject. Had they been well treated in every instance, it is

difficult to conceive how wars could ever have arisen between them and the whites.

3. "They were grateful for benefits and were firm friends." Do we not early imbibe a very different opinion?

On the other hand, we find, in the same work, the following traits of character, which were unfavorable.

1. They were intemperate in eating. Intemperance, or at least excess, in eating, produces more permanent results than intemperance in drinking. It is true the evil results are less obvious and striking, but not therefore less sure. Roger Williams testifies, that though the Indians were abstemious in their travels and in time of war, often living many days on a little corn meal and water, yet "when they had leisure and a plentiful supply of food, they would compensate themselves for their abstinence by eating enormous quantities." Just as is often done by many of the nation that has succeeded them; especially among certain classes. Some who are abstemious from principle, in one point, are apt to "compensate themselves for their abstinence" by indulgence in another.

2. Though distilled spirits had not been used,—and for a very obvious reason, because they could not get it, yet they made use of intoxicating stimulants. Roger Williams says that "Tobacco was *in general use*," not only "as a remedy for the toothache," but as "a *stimulant*."

3. Their treatment of their sick, though simple was often injudicious and destructive. Their chief remedy was sweating an hour or more, and then plunging into the river; and this was applied *to all diseases*. This is, indeed, the very spirit of quackery, as it exists among us:—the application of a certain method of treatment to all diseases.

"Roger Williams," we are told, "expended much time and money in administering to their sick," and believed that "millions" of them "perished for want of suitable" and seasonable "aid."

4. "Their domestic habits were not favorable to happiness or virtue. The marriage relation was formed with little care, and was dissolved at the pleasure of the husband." "The women were treated with rigor," and made to perform too severe labor.

5. "The parents permitted their children to grow up without restraint; and the children were undutiful and often cruel to their parents."—Just as it has been in all nations calling themselves civilized, from the days of Eli and David to the present hour; and just as it always will be, when children are not restrained by their parents.

THE COUNTRY NEWS-CARRIER.

He comes, the herald of a noisy world,
With spattered boots, strapped waist, and frozen locks,
News from all nations lumbering at his back.
True to his charge, the close-packed load behind,
Yet careless what he brings, his one concern
Is to conduct it to the destined inn;
And having dropped the expected bag, pass on.

He whistles as he goes, light-hearted wretch!
Cold, and yet cheerful; messenger of grief
Perhaps to thousands, and of joy to some;
To him indifferent whether grief or joy
Houses in ashes, and the fall of stocks;
Births, deaths, and marriages, epistles wet
With tears, that trickled down the writer's cheeks
Fast as the periods from his fluent quill;
Or charged with amorous sighs of absent swains,

Or nymphs responsive, equally affect
His horse and him, unconscious of them all.

But O the important budget! ushered in
With such heart-shaking music, who can say
What are its tidings?

HISTORY.—STORY OF EDWIN.

The engraving represents a Saxon King, of the seventh century, and his armor-bearer. It is supposed to refer particularly to Edwin the king of Northumberland, who was a very considerable warrior.

The story of Edwin's conversion to Christianity, and its results, are worth a moment's attention. His queen had been sick and at the point of death; and during her illness the family had received the kindest attention from a Christian bishop by the name of Paulinus. On her recovery, Edwin was so much affected by this kindness, and moved by gratitude to God, that he renounced his Pagan faith, and was baptised by Paulinus.

No sooner was the king converted, than other converts were rapidly made. The principal heathen temple was soon demolished by the zeal of the new converts. Coifi, its high priest, was the first to lift his hands against it. Mounted on a fiery steed, and grasping a spear,—both of which actions were forbidden by the ordinances of his priesthood,—he galloped through the multitude who had assembled to witness so strange a spectacle, all believing him to be seized with a sudden frenzy. Leaping over the enclosures which surrounded the sacred building, (as it had been thought) he threw the lance with violence against its walls. Other new Christians having quickly joined him, it was soon levelled to the ground. Supplicants for baptism now thronged so rapidly upon Paulinus the bishop, that he is said to have assisted in performing the rite on 12,000 persons in a single day.

Such is the power and influence of example, especially the example of those high in office or station.

ZIMMERMAN'S REFLECTIONS.

All who laugh are not mirthful.

Intense pleasures cannot come often.

Never contradict, and you will seldom be contradicted.

The greatest reward of our good deeds, is the consciousness of having done them.

DOES SUGAR INJURE THE TEETH?

We have heard the question asked a great many times, Does sugar injure the teeth? The very general belief that the teeth of the present generation of mankind and of the rising generation, are not so good as those of former generations were, is not without foundation. Now as we suppose there are no effects without causes, it becomes a very natural, and certainly a very appropriate inquiry, What are the causes?

Causes there undoubtedly are; but it is not quite so certain that we are able to trace them. One says sugar is the grand enemy of the teeth. Another says it is poisonous medicine. Another lays the blame on warm or hot drinks. Another on distilled and fermented liquors. Another on coffee and tea, &c.

Now it is by no means impossible that all these causes and many more, unite in this work of destruction. And it is equally possible that *excess* in the use of some, which in small quantity would be harmless, may, too, have some agency in the matter.

The more common notion is, however, that those things which injure the teeth, do it by acting *directly* on them, while they are in the mouth. Now the teeth are not only of solid bone, but they are coated by a substance, called enamel, which is much harder than any common bone;—so very hard, indeed, that no substance taken into the mouth, in any ordinary case, could possibly injure them by immediate contact. Sulphuric acid, (oil of vitriol, as some call it) and a few powerful agents not unlike it, might, indeed, produce such a result; but even sulphuric acid, in the form usually prescribed by physicians, that is, greatly diluted, and in small quantity, could

not, we are sure, produce any such effects. Our mothers and nurses, then, may cease their efforts to cleanse the mouth after taking calomel and other common medicines. Not that there is any objection to cleansing the mouth, in itself considered; but it is idle to do it, on account of the teeth. That calomel and many other medicines may *indirectly* injure the teeth, there can be no reasonable doubt; but they must do it through the medium of the stomach, in a manner which we hope at some future time to explain, but for which we have not room at present. They cannot do it merely by coming in contact for a few moments, with the teeth It is utterly impossible.

But if calomel and other medicines cannot injure the teeth directly, who will believe that *sugar* can? —It is a mild, bland substance, how *can* it affect the hard *enamel* or coating we have mentioned? It cannot;—it never did; and we venture to say it never will. The reader will observe that we speak, all this while, of *sound* teeth. If they are broken, or have already begun to decay, the case is altered. Substances which could not possibly injure the enamel, might injure the softer bone under it, and affect the nerve (for teeth have one or more nerves) and the gums.

Still the question we set out with, Does sugar injure the teeth? remains unanswered. We have insisted that it does not, and cannot injure them by mere contact, but we have not shown that it may not injure them in some other manner, either by first injuring the gums, or the stomach. Between each of these and the teeth, there is a connection; as physicians have long known and insisted. In another part of this volume p. 50, we will endeavor to give a full answer to the question. Perhaps

we may be able to show that there is no good reason to believe that moderate quantities of plain sugar, taken as a part of our meals, ever injure either the teeth, the gums, or the stomach.

SNUG SALARIES.

Lord Grenville, who lately died at the age of seventy-five, has held for many years, certainly more than thirty, the sinecure place of Auditor of the Exchequer. The salary is £4,000 a year, and the duty,—nothing. He has not even signed his name once, during the whole time; Yet he has, of course, received at least $532,000 out of the Treasury. Besides this, he must have had a *retiring* pension as Speaker of the House of Commons, before he was created a Peer.—These are very snug appointments for a childless old man, at the expense of people who have labor to perform, and families to maintain.

Now we have no fondness for *sinecures*, and no strong attachment to large salaries of any kind. There are no state offices in this Union that receive half as much in a year for the most arduous services as Lord Grenville receives for doing nothing. Indeed the united salaries of more than half the Governors of the States would not amount to as much. Still we regret to see such facts made use of—and they sometimes are—to prejudice the public mind against *all* salaried men. Thirteen governors of States receiving less than $17,000 annually! And are their situations enviable? Let those who have been accustomed to the anxiety of public life answer. Can such salaries enrich the holders of them? Let the poverty of those chief magistrates who have no

other means of support than their salaries, make the reply.—We might notice other classes of men who are most miserably poor, in spite of their salaries.

FUSING POINT OF METALS.

Water boils when the mercury of a thermometer, placed in it, rises to 212 degrees. I speak now of Fahrenheit's thermometer, which is the one commonly used. On this account the 212th degree is called the *boiling point*. The degree at which any substance *melts*, or *fuses*, is called its *fusing* point. There is one mixture of metals called *fusible* metal, which fuses at the same temperature at which water boils. But generally a much greater heat is required to melt metallic substances: Thus

Sulphur melts at - - -	216 degrees
Pewter (a mixture $\frac{1}{5}$ tin $\frac{4}{5}$ lead)	403
Tin - - - - -	442
Type metal ($\frac{1}{17}$ antimony $\frac{16}{17}$ lead)	507
Lead - - - - -	612
Zinc - - - - -	773
Brass (half copper, half zinc) -	1672
Silver - - - - -	1873
Copper - - - - -	1996
Gold - - - - -	2017
Cast iron - - - -	2786

Iron, as we see, does not melt till it is heated above 13 times as hot as boiling water.

If peace is not found at home, is it not natural to expect that we should look for it abroad? The parents, and husbands, who know not this, may be brought to repent of their ignorance.

SCENES IN INDIA.

Hunting Excursion—Alligator and dead Elephant—Attack on the Alligator—Scene of confusion—Revisit to the spot.

One morning we were unexpectedly entertained by a scene of the most novel and imposing character. We had taken our guns and sauntered into the jungle, accompanied by several armed natives, in order to try if we could not furnish our table with some of the excellent wild fowl, with which the woods and marshes abound.

We had not proceeded far, before we entered a large open space in the forest, in the centre of which was a sheet of water of considerable extent, filled, as we could perceive, with alligators of enormous size. This lake, although penetrating far into the jungle, was rather narrow, but extremely deep. From its banks, on either side, a great number of large forest-trees, which were distinctly reflected in its dark and placid bosom, cast their broad shadows upon its waters; whilst the sun, darting his vivid rays through the close foliage that nearly intercepted them, threw here and there small masses of golden light, which gave a solemn but relieved interest to the natural gloom of the picture.

Near the head of the lake was the carcass of a dead elephant, upon which a large alligator was making his meal, while others of less magnitude were eagerly awaiting his departure that they might enjoy a repast, when he should have finished his. The natural solitariness and asperity of the spot, the immobility and muskiness of the lake, the extreme denseness of the foliage, together with the

almost cavernous gloom which such a concurrence of causes produced, were seen in awful contrast with the several varieties of living objects that met the sight, upon entering this sequestered glade. There was indeed a stirring activity in the very haunt of solitude; and what is strange, the feeling of intense solitariness was only the more strongly awakened by the presence of this activity, as the mind instantly felt that it could only be witnessed far from the abodes of men.

Many were the reflections that passed rapidly through my thoughts as I gazed upon the living things which swarmed in and about the dark lake on whose banks the elephant had breathed his last. Various beasts and birds of prey,—jackals, adjutants, vultures, kites, and reptiles of different kinds, were seen collecting from all quarters, waiting their turn to share in the full banquet.

During the time that the large alligator,

"At once the king and savage of the waste,"

was busy at his work of hungry devastation on the colossal body of the elephant, a native attendant was desired to advance and fire, in order that we might see what would be the effect of the explosion among the ravenous visitors of this gloomy valley. This he immediately did. The ball glanced from the alligator's body as if it had been cased in adamant, when a scene of confusion ensued which defies description. The whole valley seemed at once to start into life. The rush of the monster thus suddenly scared from its prey—the splashings of these which were floating on the surface of the lake in expectation of a speedy meal, as they plunged beneath its still waters—the yelling of the jackals, and the screaming of the vultures, made,

altogether, such a din that we were glad to escape from the frightful uproar.

We had the curiosity to revisit the spot after our day's sport, on our return to our tents, when we found the large body of the elephant entirely consumed, with nothing but the skeleton remaining. The bones were picked as clean as if they had been under the hands of a most skilful surgeon, and prepared by him for some national museum. This operation was completed by the black ants, which swarm upon a carcass after it has been relinquished by the more voracious beasts of prey, and leave the fleshless frame as white and clean as if it had been polished by the efforts of human ingenuity.

SUBSTANCES USED FOR HUMAN FOOD.

Maize or Indian Corn.—Only one species of this plant is known. Its native country is America, having been first found here, when the continent began to be frequented. Maize is almost as important an item of human sustenance, as rice. It forms a principal article of food in the United States; at least in many parts of them; it constitutes almost the entire support of the Mexicans; and in Africa, is consumed to an extent nearly, if not quite equal to the consumption of rice. Besides, it contributes, indirectly, to human support in the United States by being extensively, in some instances almost exclusively used in the fattening of swine and poultry. It is also much used as food for horses.

Indian corn is very little subject to disease, and is in almost every respect, a sure crop. It is very

productive; having been known in some favored spots, to yield eight hundred bushels for one which was planted. Three or four hundred for one is very common. The quantity which an acre of land will produce, varies, of course, with the strength of the soil, and the mode of cultivation; but it has been known to produce about one hundred bushels to the acre, in a few instances. Those soils of Pennsylvania which will produce from fourteen to seventeen bushels of wheat to the acre, will produce from twenty to thirty of corn.

We have said that there is only one species of Indian corn, but there are several varieties. Those in hotter climates are longer in coming to maturity; those in colder climates ripen much sooner. As a general rule, also, the more northern regions produce the smallest plants, but the heaviest grain; and the more southern, the largest plants, but the lightest kernel. The weight thus varies from forty to sixty-five pounds a bushel.

A more particular description of Indian corn and of the methods of raising it, in a country where almost every individual must, of necessity, have seen it, might be tedious. We will only add a few thoughts on its comparative value for food.

From the fact that it contains none of the principle called gluten, so abundant in wheat, and by no means a large proportion of saccharine matter, many have supposed that Indian corn was not very nutritious. Yet facts seem to indicate quite the contrary. Not only men, but other animals which are fed, in a very large proportion, on this substance, are among the most strong and hardy of their race; and they are not only fleshy, but their flesh is very firm. It appears to us, therefore, highly probable that it is one of the most nutritious vegetables, although we may not be able to give the reason why. The fact that a majority of those who use it freely, are very fond of it, cannot make much difference; although of two articles equally nutritious, there is no doubt but that is rather the best for us which is most palatable. Still, habit and many other circumstances, independent of any thing like natural adaptation, determine whether a thing shall be agreeable to the taste or not.

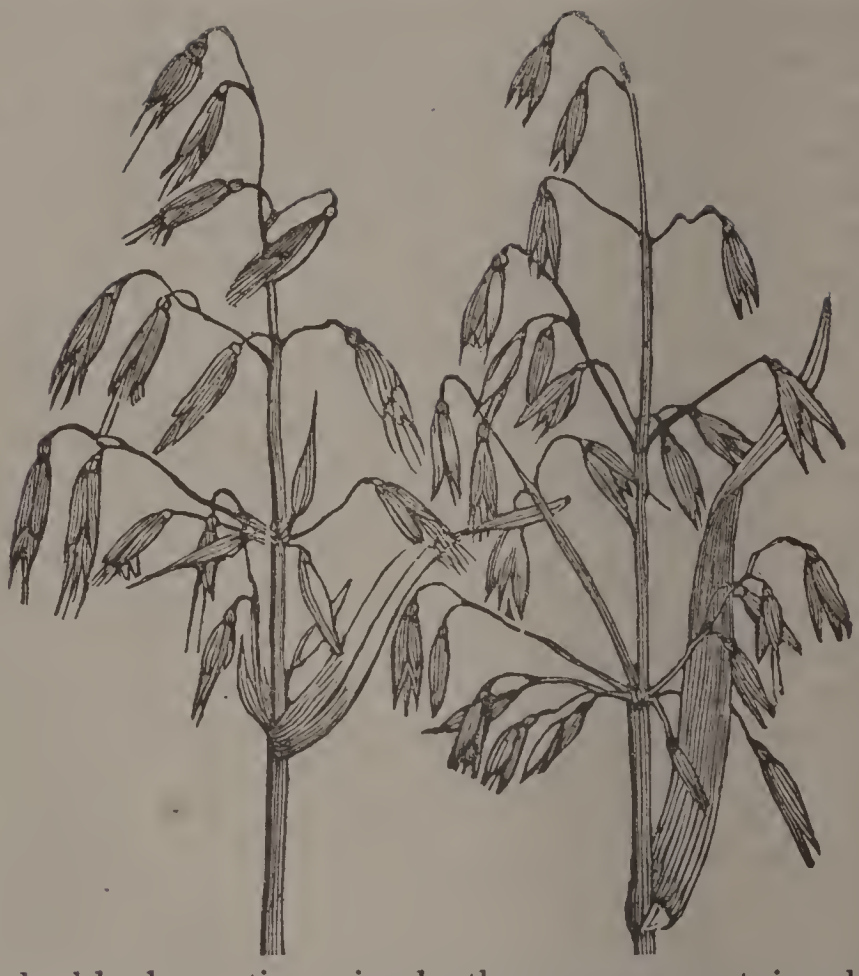
A great variety of dishes are prepared from this

useful article of food. The tender, green ears, stripped of their green leaves, and roasted by a quick fire, are esteemed a great delicacy. They are also boiled at the same immature age; and eaten with a little butter or salt. Cut from the cob, and boiled with beans, they form a popular dish, derived from the Indians, and from them called succotash. But in all these ways, however delicious, corn is very unwholesome; and is often one cause of those summer complaints which are referred to far different and less injurious sources.

When the grain is ripe and hard, there are also several ways of using it. One is to soak it in lye, and then pound it in a large mortar till the skins and hulls fall off. The corn is then boiled, till it swells into a soft white pulp, which is eaten either with sugar or with butter and milk. Not unlike this is the famous Indian dish called hominy. Corn, which is thoroughly dried, and is several years old, may also be eaten in the same way. But even before it is quite ripe it is often pounded, or broken a little by the millstone, to form what, in many parts of the country, is called *samp*,—and with milk, makes very good food. Ground into a fine meal and boiled, it forms hasty pudding.

There are also several different ways of forming bread from Indian corn. Cakes of this meal, baked by the fire, have obtained in the Southern United States the name of *hoe cakes*. In other instances the meal is baked to form loaves by itself, but the bread thus formed is heavy. Mixed with flour of wheat or rye it makes a most excellent bread, and to unperverted tastes very palatable.

Oats.—Oats are very little used for bread in the United States, though in the northern parts they are extensively raised for horses. For these



valuable domestic animals they are a most invaluable production. They are also used to a considerable extent in fattening swine and poultry, and in a few instances to fatten cattle. For the two last purposes, they are generally boiled; and not a few individuals boil them for horses. Boiling greatly increases the quantity of saccharine matter in this species of grain, as it does in most other kinds of grain, and in many roots.

The reason for introducing this species of grain, in connection with substances used as human food, is the fact, that though not employed for this pur pose among us, oatmeal cooked in various ways,

forms, at this time, a large proportion of the food of the inhabitants of Scotland, particularly of the better fed portion of the laboring classes; and also, in some parts of England. In general, it is used in cakes, but not uniformly so. About 500 years ago, it appears to have been used more extensively, even than now; for we find that in making a valuation of Colchester, almost every family was found to be provided with a small store of oats and barley — say from eight to fifteen bushels,—while scarcely any wheat was found in the inventory; and nearly as little rye.

In the time of Henry VIII. the king's deer were fed on oats. In the privy purse expenses of the king is the following singular entry: 'Paied to the keper of Grenewiche parke for xiiij lode of hey, And for vi lode of Oots, for the relief of the dere there, And for the carriage thereof, vj *l.* ij *s.* viii *d.*"

Oats is a much lighter grain then any other which is used for human sustenance. The best will weigh about half as much by the bushel as wheat. But the nutritive quality of a similar weight of this grain is less than that of most other kinds: for while in wheat it is 95½ parts in 100, it is scarcely 75 in oats. Its small proportion of saccharine matter, also renders it less valuable to distillers of beer and whiskey than other substances; though there was a period in the history of Great Britain when a strong drink was made in part from this substance, and designated by the name of *mum.*

There are several different kinds of oats; the long bearded, the white, the red, the naked, and the potato oat. The last kind took its name from the fact of its having been first discovered growing on a heap of manure among some potatoes. This is a very valuable species, and is almost the only kind

now cultivated in the north of England, and in the lowlands of Scotland.

This plant possesses the advantage of growing upon soils and in situations where neither wheat nor barley can be raised. As to its form, if there are any of our readers who have not seen it, the cut will sufficiently describe it. It is a very hardy plant, but is much injured by drought or by great heat. It is thought to exhaust soils, faster than most other vegetable productions. The time for sowing is, generally speaking, in April; and while rye and wheat require only from one to two bushels of seed to the acre, this is scattered in the larger proportion of from two to four; and in England from four to six. Its medium produce an acre, on good soils, is 40 to 50 bushels.

Buckwheat.—This plant is much raised in many parts of the United States, as well as in other countries. In England it is sometimes called brank, and in Germany *beechwheat*, from the resemblance which the grains or kernels bear, in shape, to the nuts of the beach tree. It will grow in a very indifferent soil, although the produce will be much greater in a rich than in a poor one.

Buckwheat flour is much used for a species of pancakes. These cakes are much prized in many parts of the country, but in some places they are considered as a meaner sort of food, hardly fit for the use of the respectable part of society. We can hardly regret that such a prejudice should prevail against it; for in comparison with wheat, rye, corn, rice, potatoes, and even barley and oats, it is very unfit for human sustenance.

It is said that the poor of some countries mix

buckwheat meal with wheat flour, and make a kind of bread of the compound. But it is by no means nutritious; besides it is black and bitter. In Brabant, the people sometimes raise it almost wholly for the sake of bees, as its blossoms yield an unusual quantity of honey.

Birds, especially patridges and pheasants, are exceedingly fond of buckwheat; and so are poultry. Nothing perhaps is better for poultry. Pigs are often fattened upon it; and next to corn, it is an excellent substance for this purpose. It has been said by English writers, however, that if given to them in large quantity, it will at first produce a species of intoxication, so that they play

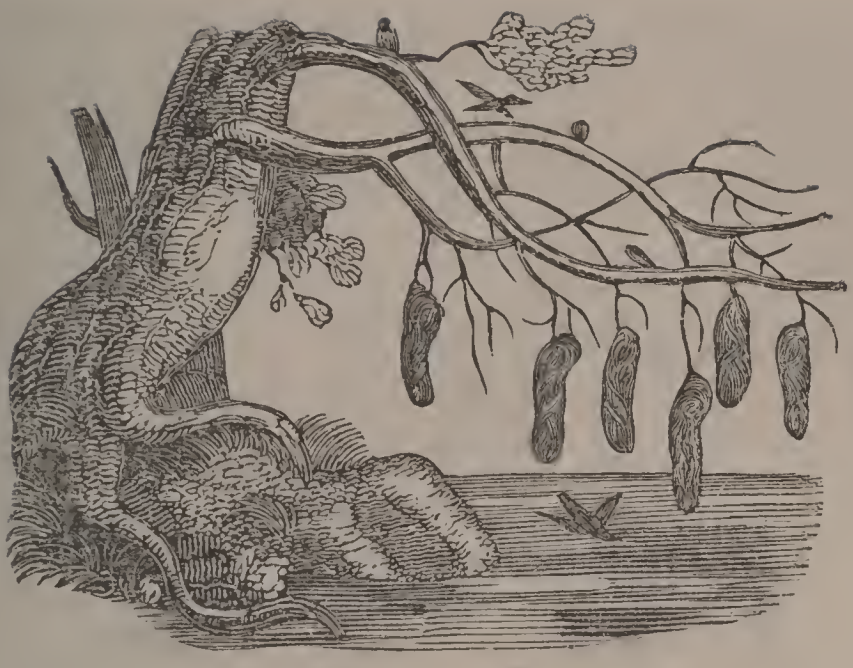
many grotesque pranks; but that they soon become accustomed to it. We have never known it produce any such effects in this country.—Horses are sometimes fed with a mixture of buckwheat and oats; but the former must be bruised for this purpose.

Buckwheat is often cultivated for the sake of its green fodder. For this purpose it will bear cutting twice during the summer. The state most proper for cutting is when the blossoms are making their appearance. All animals are fond of this food, and thrive on it. When given to cows, the result is, the very best of milk, butter, and cheese. The stalk and leaves will continue green during the driest weather, even when all the grasses in the meadow are dried up. This circumstance, our farmers have not sufficiently attended to.

Buckwheat is also sometimes sown in order that the plants may be ploughed into the ground, and serve as manure in the process of bringing lands into proper order for other crops. It is ploughed in while in the blossom.

BIRD ARCHITECTURE.

Pensile Grosbeak.—Among the gregarious or *herding* African birds, is the pensile grosbeak, which is about the size of a house-sparrow, and makes a basket-nest of straw and reeds, interwoven into the shape of a bag, with the entrance below, while it is fastened above to the twig of some tree, chiefly such as grow on the borders of streams. On one side of this, within, is the true nest. The



bird does not build a distinct nest every year, but fastens a new one to the lower end of the old, and as many as five may thus be seen, one hanging from another. From five to six hundred such nests have been observed, crowded upon one tree.

A living author of reputation thus describes these nests; though we do not coincide with his opinion of the structure being devised for defence.

"Several varieties of the finch tribe, in South Africa, suspend their nests from the branches of trees, especially where they happen to impend over a river or precipice. The object of this precaution is obviously to secure their offspring from the assaults of their numerous enemies, particularly the serpent race. To increase the difficulty of access to these 'tree-rocked cradles,' the entrance is always from below, and frequently through a cylindrical passage of twelve or fifteen inches in length, projecting from the spherical nest, exactly like the

tube of a chemist's retort. The whole fabric is most ingeniously and elegantly woven of a species of very tough grass; and the wonderful instinct of foresight (or whatever else we may choose to call it) displayed by the little architect in its construction, is calculated to excite the highest admiration. I have often seen twenty or more of these beautiful nests hanging from a single tree."

Bottle-Nested Sparrow.—This is another African bird, not unlike the former; and is thought by some to be of the same species. It is thus described.

The baya, or bottle-nested sparrow, says Forbes,

is remarkable for its pendant nest, brilliant plumage, and uncommon sagacity. These birds are found in most parts of Hindostan; in shape they resemble the sparrow, as also in the brown feathers of the back and wings; the head and breast of a bright yellow, and in the rays of a tropical sun have a splendid appearance, when flying by thousands in the same grove; they make a chirping noise, but have no song; they associate in large communities, and cover extensive clumps of palmyras, acacias, and date-trees with their nests. These are formed, in a very ingenious manner, by long grass woven together in the shape of a bottle, and suspended by the other end to the extremity of a flexible branch, the more effectually to secure the eggs and young brood from serpents, monkeys, squirrels, and birds of prey. These nests contain several apartments, appropriated to different purposes: in one the hen performs the office of incubation; another, consisting of a little thatched roof and covering a perch, without a bottom, is occupied by the male, who, with his chirping note, cheers the female during her maternal duties.

Dr. Fryer gives the following very pleasant description of the baya, under the name of the toddy-bird, in his entertaining "Travels."

Nature, in the rainy season at Bombay, affords us a pleasant spectacle, as well as matter for admiration; for here is a bird that is not only exquisitely curious in the artificial composure of its nest with hay, but furnished with devices and stratagems to secure itself and young ones from its deadly enemy, the squirrel; as likewise from the injury of the weather, which being unable to oppose, it eludes with this artifice: contriving the nest like a steeple-hive, with winding meanders, before which hangs

a penthouse for the rain to pass, tying it with so slender a thread to the bough of the tree, that the squirrel dare not venture his body, though his mouth water at the eggs and prey within; yet it is strong enough to bear the hanging habitation of the ingenious contriver, free from all the assaults of its antagonists, and all the accidents of gusts and storms. Hundreds of these pendulous nests may be seen on one tree.

Sociable Grosbeak.—The sociable grosbeak inhabits the same regions, and seems to excel both the preceding species, in the extent, if not in the skill of its workmanship. The industry of this bird is almost equal to that of the bee. Throughout the day they seem to be busily employed in carrying a fine species of grass, for the purpose of erecting their most extraordinary building, which is thus described by a naturalist.

"Each individual nest is three or four inches in diameter, which is sufficient for the bird. But as they are all in contact with one another, around the eaves, they appear to the eye to form but one building, and are distinguishable from each other only by a little external aperture, which serves as an entrance to the nest; and even this is sometimes common to three different nests, one of which is situated at the bottom, and the other two at the sides. According to Paterson, the number of cells increasing in proportion to the increase of inhabitants, the old ones become "*streets of communication*, formed by line and level." No doubt, as the republic increases, the cells must be multiplied also. But it is easy to imagine that, as the augmentation can take place only at the surface, the new buildings will necessarily cover the old ones, which must therefore be abandoned.

Should these even, contrary to all probability, be able to subsist, it may be presumed that the depths of their situation, by preventing any circulation and renewal of the air, would render them so extremely hot as to be uninhabitable. But while they thus become useless, they would remain what they were before, real nests, and change neither into *streets* nor *sleeping-rooms*.

The large nest that I examined was one of the most considerable I had anywhere seen in the course of my journey, and contained three hundred and twenty inhabited cells, which, supposing a male and female to each, would form a society of six hundred and forty individuals. Such a calculation, however, would not be exact. I have spoken above of birds among which one male is in common to several females, because the females are much more numerous than the males. The same is the

case with many other species, both in the environs of the Cape and in the colony; but it is particularly so among the republicans. Whenever I have fired at a flock of these birds, I have always shot four times as many females as males."

Cape-Tit.—This bird, which is also found in Southern Africa, places its nest in the thickest bushes, and makes it, as some say, with a sort of wild cotton. The nest very much resembles a bottle, with a narrow neck. On the outside of it is a pocket, which serves as a place of lodging for the male. When the female has left the nest, the male, if he desires to follow her, beats violently with his wings against the side of the nest, until the edges, by coming in close contact with each other, unite, and entirely close up the entrance. By means of this singular contrivance, the young are protected from those voracious insects and ani

mals, which might otherwise injure them during their absence.

Bottle-Tit.—There is one bird, in Great Britain, which has a very curiously shaped nest. We mean the bottle-tit, or Jack-in-a-bottle, as it is sometimes called; from the circumstance of the nest having the shape of a bottle. The nest is

composed of green mosses, carefully felted together with fine wool. The following is a very particular description of it, from a naturalist.

It is of an oblong figure, like a pine-apple, of two palms length, and one broad, round, built of sundry materials, namely, both tree and earth moss, caterpillars' webs, and other woolly-like matter, and feathers, with that order and art, that the chief

and middle strength of the work, or texture of the walls, was of that yellowish-green moss, the common hairy moss, that silk-like substance, and tough threads *resembling* those filaments suspended in the air, and flying up and down like spiders' webs, which are accounted signs of fair weather, connected and interwoven, or rather entangled so firmly together that they can hardly be plucked asunder. Of the interior cavity, all the sides, it seemed, as well as the bottom, were covered and lined with feathers, for the more soft and warm lying of the young. The outmost superficies, round about, was fenced and strengthened with fragments of that leafy moss which everywhere grows on trees, firmly bound together. In the fore-part, respecting the sun-rise, and that above (where an arched roof of the same uniform matter and texture as the sides and bottom covered the nest), was seen a little hole, scarce big enough, one would think, to admit the old one.

We have, at least, one genus of birds in America, almost all of which have pensile or hanging nests. We allude to the orioles; and, in particular, to the Baltimore oriole, so well described by Wilson and Audubon.

DOES SUGAR INJURE THE TEETH?

We have attempted to show, in a former article, that sugar cannot injure the teeth by merely coming in contact with them. It remains, therefore, that we consider whether it has power to injure

them through the medium of the gums or stomach

All substances which injure the stomach, probably injure the teeth. The membrane which lines the mouth, is continued down the throat to the inside of the stomach, and the sympathies, as physiologists call them, between the stomach and mouth, are peculiarly strong. That is to say, if the lining membrane of the stomach is affected in any new and unusual manner, the lining membrane of the mouth and the gums is apt to be affected in a similar manner. Hence when there is an unusual redness about the gums, or the edge of the tongue, or a coat of fur upon the latter, the physician at once knows that all is not right in the former.

Again; when the mouth and gums are affected by sympathy with a bad condition of the stomach, if this state of things is permitted long to continue, the hard enamel of the teeth becomes soft, or unsound; and if the stomach continue foul long enough, it will gradually break away, and the teeth will turn black. *Why* there should be such a connection, or sympathy between the stomach, gums, and teeth, we are unable to say; but the *fact* we believe, is admitted by all who have carefully studied the subject.

If the foregoing doctrines are true, it follows that whatever injures the stomach by rendering it foul, or diseased, injures also the teeth. Here the question arises; What substances injure the stomach? The answer to this question would fill a volume, rather than a page. But our present purpose is merely to inquire whether sugar is one of those injurious substances.

We maintain—and strenuously—that it is not. Perhaps, indeed, it *might* produce such a result, if

used for a long time, and in excessive quantities. An excessive use of bread, by overloading the stomach, may produce acidity; and the same may be said of milk. Yet who will infer from this that bread or milk injure the teeth?

But we come to facts. The colored people of the West Indies, during the season of sugar making, are said to live much upon cane juice. The inhabitants of many eastern countries, both ancient and modern, use honey as a principal article of food, and in great quantities. Do the teeth of these people decay the sooner for it? But we have known whole families who used this substance, in very great quantities, whose teeth, and whose general health, were as good, to say the least, as those of any other families in the same neighborhood, who used it sparingly.

We mentioned honey. This, it may be said, is different in its effects from sugar. But wherefore? It must be the cloying nature of so concentrated a principle as the saccharine portions of either of these substances, that do the mischief, if mischief is actually done. It must be the *sweet* which they contain.

We should, however, remember that this sweet or saccharine principle is contained, in greater or less abundance, in almost every thing we eat. It abounds in milk, bread (if good), boiled potatoes, peas, beets, carrots, and parsneps; and in almost all fruits. In some of these it is in very large quantity. Can it be possible that moderate quantities of a substance abounding every where in nature, and to which we have been accustomed from our earliest infancy, can be injurious? We do not believe it.

Were it worth while to refer to authorities, we

might cite many. We will mention but one; Dr. Rush. His remarks are; "It has been said that sugar injures the teeth, but this opinion now has so few advocates, that it does not deserve a serious refutation."

Lastly; it is not in accordance with the laws of sound reasoning, to refer a given effect to a *doubtful* cause, when *known* causes will fully account for it. We conceive that there are causes enough in operation which must inevitably tend to destroy the human teeth at an early period, without resorting to the *very* questionable one of *a little sugar*. Our wonder is that this destruction is not effected much sooner; and we can only ascribe it to that *long suffering* and *forbearance* which Solomon had in view when he said, "Because sentence against an evil work is not executed speedily, therefore the heart of the sons of men is fully set in them to do evil."

PAPER FROM CORN HUSKS.

The famous Cobbett states that he has received from a paper manufacturer at Guilford, (England) fifty sheets of paper made from the husks of corn, which he had only sent off to be manufactured the week before. This, he says, will save the nation a million a year.

Surely the suggestion is worth an experiment, and we should be glad to see some of our American manufacturers try it. Good wrapping paper is made from common straw, and when we recollect the firmness, texture and complexion of corn husks, we are not surprised that an ingenious man should have thought of it as a material from which to manufacture paper.

THE MARQUIS DE LA PLACE.

EXTRACTS FROM M. BARON FOURIER'S EULOGY.

La Place — His Memory—Diet—Close application to Study — Sickness—Death.

"La Place retained to a very advanced age that wonderful memory which had made him remarkable from his first years; a boon precious indeed, though not a necessary proof of genius; but still enabling him to *acquire* and to *preserve*. He never cultivated the fine arts, but he always appreciated them.

La Place had always been accustomed to a very light diet; he gradually diminished it to an extremely small quantity. His very delicate sight required continual precautions. He, however, succeeded in preserving it without any change. These cares of himself never had any object but that of reserving all his time and all his powers for the labors of the soul. He lived for the sciences; the sciences have rendered his memory eternal.

He had contracted the habit of an excessive application of mind, so injurious to health, but so necessary to deep studies: and yet he experienced no sensible debility, except in his two last years.

At the commencement of the disease under which he sunk, we remarked, with fear, a moment of delirium. The sciences still engaged his attention. He spoke with an unusual degree of earnestness on the motion of the stars, and then of an experiment in physics that he said was *capitale*. His strength left him more and more. His physician, (Magendie,) who deserved his entire confidence by superior talents and by attentions that friendship only could suggest, watched near his bed. M. Bouvard, his assistant and his friend, never quitted him a single instant. Surrounded

by a beloved family, under the eyes of a spouse whose tenderness had aided him in supporting the inseparable troubles of life, whose grace and sweetness of disposition had made known to him the worth of domestic happiness, he received from *M. le Marquis de La Place*, his son, impressive testimonials of the most affecting filial piety.

Those who comforted him in his last moments, reminded him of the titles of his glory, and his most brilliant discoveries. He answered: "What we know is but little; what we are ignorant of is immense." This is, at least as far as could be gathered, the sense of his last words, scarcely articulated.

His last hour had arrived. The powerful genius which had so long animated him, at last separated from "this mortal coil." He died without a struggle.

The name of La Place honors Normandy. He was born March 23d, 1749: he died in the 78th year of his age, on May 5th, 1827."

Food of Herbivorous Animals.—Linnæus remarks, that the cow eats 276 species of plants, and rejects 218; the goat eats 449, and rejects 126; the sheep eats 387, and rejects 141; the horse eats 262, and rejects 212; and the hog, more nice in its taste than any of these, eats but 72 plants, and rejects all the rest.

PHILOSOPHY OF CLOUDS AND LIGHTNING.

Clouds are collections of vapors suspended in the atmosphere, and rendered visible. This is the common definition; but this requires defining over again to render it intelligible. But the subject itself is not fully understood, and we shall not at

the present time attempt a better definition than they who have gone before us.

The height of clouds is not usually great. Many travellers have found the summits of high mountains to be quite above and free from them. It is found that the clouds which are most highly charged with electricity (the substance which, when emitted, we call lightning) descend nearest the earth. Some of them have been known to come within half a mile of the earth's surface, and occasionally even much nearer. During a tornado in Kentucky, on the 4th of June 1812, the cloud appeared to the inhabitants to touch the ground; and the same phenomenon has been observed at different periods and in different countries. In general, however, clouds are about a mile above the earth's surface. Many suppose it is the electrical fluid of clouds which renders them visible; and their shape is obviously referrible to this cause. The *uses* of clouds are evident; but besides being the receptacles of rain, hail, and snow, they serve the purposes of a screen between the earth and the sun's scorching rays, which would otherwise, in some instances, be so powerful as to destroy the grass and many tender vegetables. They serve, too, as receptacles to the electric fluid, and whether that fluid rushes from the clouds into the earth, or from the earth into the clouds, its effects are sometimes terrible.

Lightning.—The most extraordinary effects of the electric fluid are said to have been observed in Java, in the East Indies, in Aug. 1772. About midnight a bright cloud was observed apparently resting upon a mountain in the district of Cheribou; and several reports were heard like those of a gun. The people who dwelt on the upper part of the mountain, not being able to fly fast enough, a great

part of the cloud, eight or nine miles in circumference, detached itself under them, and was seen at a distance rising and falling like the waves of the sea, and emitting globes of fire so luminous that the night became as light as day. The effects were astonishing. Every thing was destroyed, for twenty miles round. Houses were demolished, plantations buried in the earth; and 2140 people, besides 1500 head of cattle and a vast number of horses, goats, &c. lost their lives.

Lightning was looked upon as sacred both by the Greeks and Romans, and was supposed to be sent to execute vengeance on the earth. Hence persons killed with lightning, being thought hateful to the gods, were buried by themselves, lest their ashes should pollute those of other people. All places struck with lightning were avoided, and fenced round, from an opinion that Jupiter had either taken offence at them, and fired upon them the marks of his displeasure, or that he had by this means pitched upon them as sacred to himself.

We smile at these superstitious notions; and yet there are individuals among us even now, who entertain opinions not a whit more rational. We are well acquainted with one individual who holds that it is wrong to use any efforts to secure ourselves from the effects of lightning, because, he says, it is a kind of practical *defying* of the Creator. And yet this same individual is not wanting, beyond the majority of mankind, either in good sense or intelligence. Credulity is not by any means confined, to the weak minded and the ignorant. We confess, ourselves, that not a little mischief, as well as much good is done by lightning rods; but the fault is not that rods if properly erected, fail to protect us and our property—in a manner, too, of which we have

as good a right to avail ourselves, as of our houses in a severe hail storm—but because they are *not* properly erected, are not high enough above the roof of the building, are not properly pointed, &c. They should always be put up under the eye of a workman who thoroughly understands the principles of electrical science.

When a cloud, highly electrified, passes near to some elevated body, as a steeple, a tree, or a house, a quantity of the electrical fluid sometimes flies from it in the form of a spark or body of light, which occasions an explosion. The gleam of light we call lightning; the explosion, thunder. The lightning or electrical fluid leaves the cloud, because the latter is overcharged with it; and it goes to the earth because that has much less, and sometimes very little. We ought to have said that there is always a tendency in this fluid to come to an equilibrium. It happens, occasionally, that a cloud has not its full proportion of it, and the earth, or something over which the cloud passes, has *more* than its average proportion. In that case, the electricity goes from the earth to the cloud, or strikes upward, as some call it, instead of downward. But this, though well authenticated, is by no means an every day occurrence.

The electric fluid, in its passage from one body or place to another, follows some bodies much more readily than others. These bodies are called conductors, and those which it follows most readily are called *good* conductors. Among these last are metals, living bodies, (especially the fluids of human bodies, as blood, milk, &c.,) and green trees. Non-conductors are bodies, or substances, which this curious fluid will not readily follow. Some of these are glass, amber, sulphur, resins, wax, silk,

feathers, cotton, wool, hair, oil, dry vegetable substances, &c.

It is on the ground that metals are good conductors that lightning rods are erected. The lightning usually follows the rod, and descends to the earth, without injuring the building. But we may also observe that if green trees are good conductors, it is not a good practice for people to stand under them, or leave their beasts of burden under them as many are accustomed to do, in a thunder shower. Better, by far, to stand in the open road or field. The safest place in a building is in its middle, as far removed as may be from the sides of the room, and in a chair; or what would be far better on a feather bed. But with a good lightning rod to a house, such precautions would be wholly unnecessary.

Still, it must be confessed, that no place is wholly secure. The lightning sometimes winds about, and goes in a zigzag direction; and occasionally it seems to set all rules and laws at defiance. Its tremendous force, as it descends, may be one reason of the last mentioned phenomena. As a general rule, we may secure ourselves as effectually against it as we can against a storm of rain, hail, or snow, or a gust of wind. The better way is to take all reasonable known precautions, and then leave the event to Divine Providence. For that event—whatever it may be—we are bound, at all times, as reasonable beings, to stand prepared.

The Bed.—The bed is a bundle of paradoxes We go to it with reluctance, but we quit it still more reluctantly. We make up our minds every night to rise early the next morning, but we are apt to make up our bodies in the morning to lie late.

Millet. — There are several sorts of this plant: the German, the Italian, and the Panicled Millet. The Italian is the kind represented in the engraving; but the German millet, which much resembles it, is most common. It is raised in the United States, however, very little; but much more in the West Indies. The various kinds, however, agree in bearing a round seed somewhat larger than a mustard seed, which has been sometimes used for bread. The Italians, especially, make from it a dark colored coarse kind. It is also frequently made into puddings. Domestic animals, particularly horses, are fed with, and fowls thrive upon it.

In the barren districts of Bornou in Africa, there is a sort of millet, called by the inhabitants *gussub*, upon which both men and animals entirely subsist. The poorer people simply parch it. Others crush the seeds and then steep them in water before they eat them: while the epicures of the land clear the grain from the husk, pound it, and make it up into a light paste with melted fat.

When millet is ripe, it is gathered as follows. The panicles or heads are cut off near the top of the stalk, and collected in sacks or baskets. They are then laid up in heaps and carefully covered during five or six days, after which they are spread out on the barn floor, and threshed with a flail, as we commonly thresh wheat or rye. In India, how-

ever, they sometimes resort to the primitive method of treading it out by means of oxen.

IMPOLICY OF REARING DOGS.

It is now generally admitted that there are over 13,000,000 of inhabitants within these United States, and not less than 2,600,000 families. We shall probably fall short of the full number of the canine race within these states, when we estimate them at half the number of families, making them 1,300,000. They may not stand in this proportion in our cities and older towns upon the seaboard, but including the North, the South, and the great West, they will fully equal this estimate.

We will lay the average expense of board for each dog per day at *one cent* and eight mills. This certainly will not be considered an over estimate, when it is recollected, that the same food which is consumed by the dog, would, if given to the swine, contribute to the riches of the larder. The annual expense of board for dogs, then, amounts to the enormous sum of 8,541,000 dollars. But we are all sensible, that there are other items to be taken into the account in order to a full exhibition of this case. It requires much time, care, and labor to rear a pup, and teach him the services, which will be required of him, and when he is grown and qualified for service, then he becomes the occasion of much loss of time with the multitudes who follow him in the chase; and looking to the South and the West, we add the wear and tear of horse-flesh, of shoe leather and clothing.

These expenses will certainly average one dollar

to each dog annually, making 1,300,000 dollars. And we are yet to meet the bill exhibiting the heavy losses sustained annually among our horses, cattle, sheep and swine, on account of the rabid bite of the dog; another bill for the losses among sheep from dogs, that are impelled to deeds of violence by hunger, or a love of rapine; another containing charges for broken carriages, broken limbs, and the fees of surgeons and physicians, all originating in the affright of horses, when suddenly accosted by a furious cur, or mastiff, springing from a heathenish habitation, and threatening to devour the peaceful passenger. We say *heathenish* habitation, because no man having a claim to the honorable distinction of being *civilized* will retain such an animal under his roof, or in any way contribute to his existence!

There is one other item to be added to these several bills—it is the expense of metallic collars, brass, copper or silver, with their locks, and engravings, which are worn by thousands of dogs in the nation, by those in cities especially; and when we have included all these bills, they will levy a tax of 33 cents upon each dog annually—making 429,000 dollars. And these several sums exhibit an aggregate of 10,270,000 dollars, expended annually upon dogs in the United States! A total from which we shall shrink back with surprise, and a kind of instinctive dread! and we begin to inquire, is there no mistake? No error in the data?

Reader, the estimates are all before you. Reduce the amount of expenditure if you honestly can; but I am full in the conviction, that when you have investigated the subject, you will rise from it, convinced that the *total* above named is the least possible amount by which the dogs in these states can

be supported for a single year. And this will show us that our *dog*-tax annually amounts to about the same as the whole expenses of the Federal Government in 1821, exclusive of the public debt. That it amounts to about *nineteen* times the sum of all that is contributed by the nation to the leading benevolent objects of the day; *four* times as much as is contributed by England and America, and more than *twice* the amount of all that is contributed for those objects in christendom. In ten years it would construct Rail-Roads and lay open Canals to as great an extent as the interests of the nation would ever require, from New-Orleans to Maine. In fifteen years it would build a Navy which all the present ships of war in the world could not resist; and in less than twenty years, it would enable this nation to put a full copy of the Scriptures, gratuitously, into every family on this earth! And in view of this annual expenditure, we are impelled to make the inquiry, what remuneration does this nation receive from the whole canine family?

We do not pretend to say there are not some advantages derived from dogs by individuals. They are sometimes of use in stores, factories, tanneries, and are convenient in frontier settlements. We have a thousand pleasing anecdotes to relate of their sagacity and their fidelity in their master's service. Some human lives have been preserved through the vigilance and efforts of dogs. This last consideration would do more to vindicate the practice of dog keeping than any other, were it not, that it is more than counterbalanced by five to one, in the deaths of our fellow creatures by hydrophobia, a death made terrible to the victim more than all other deaths, and that which in a

special degree, wrings all the sensibilities of surviving friends.

The question returns then, what compensation does the community, or does an individual receive for the existence of one single dog in a thousand? We frankly confess our full conviction, that in 999 times in 1000, the existence of dogs is a dead loss to all concerned; and that the dogs in this nation are defaulters to the public in the sum of 10,000,000 of dollars a year. Thus much I have felt it my duty to say upon the *impolicy* of supporting dogs to the extent they are supported in this nation. I shall now say something upon its *frequent injustice.*

It is always unjust to the Great Giver of all our mercies, when we take the bounty at his hand and squander it, or apply it to no valuable purpose. God, it is true, gave existence to the canine race, and in common with all other irrational tribes, they are given to man to promote his happiness and usefulness; but beyond these, he has no right to multiply the number of dogs, nor to draw upon the storehouse of a beneficent Providence for rations to supply a host of irrational supernumeraries. This evil appears the greater, since there are millions of the human family suffering for the portions thrown to the dogs, and God's commands are not complied with in behalf of the poor, because the dogs have pre-occupied the ground in the affections and charites of their masters. Injustice is often done to our *neighbor* by the keeping useless dogs.

By what principle can I be justified in keeping an animal, which is in no sense necessary to my support or comfort, but which is a constant annoyance to my neighbor? which howls around his house and out-buildings, and bears away whatever chance

may have left exposed to his voracious appetite? an animal that accosts him with fury every time he passes my habitation, frightens his horse and terrifies his children, and now and then steals into his pasture by night, and devours a few lambs or sheep? and above all, am I justified in exposing my neighbor, or one of his family, to the rabid bite of such an animal? Should I be willing that my neighbor should deal out to me the same measure? If not, the question is settled, and the injustice of this course is most manifest. A *father* often injures his family even more than he does his neighbor by keeping one or more hounds, while his children are in want of the portion that falls to the dogs.

These you may say, are extreme cases. I admit it; but they do exist, and illustrate a thousand minor evils, which in human society perform the office of the *little foxes which spoil the vines.* Now, in view of what has been exhibited, I would make an appeal to the conscience of every owner of a dog in this nation, and say to him in all good feeling, is this animal so important to your usefulness and happiness, that you are justified in bestowing upon it so much of your time, and in appropriating so many of the bounties of Providence to its support? Are there no higher claims upon your charities uncancelled, and do you believe that you are making the best use of life and its blessings? Have you no fellow beings within your knowledge, whose necessities you could relieve, and whose hearts you could make to rejoice by bestowing upon them the *half* it costs you to support that irrational being a single year? Remember the sacrifice—10,000,000 a year in this nation, and remember, thou art an accountable being!

The Morning Air.—There is something in the morning air, that while it defies the penetration of our proud and shallow philosophy, adds brightness to the blood, freshness to life, and vigor to the whole frame; the freshness of the lip, by the way, is, according to Dr. Marshall Hall, one of the surest marks of health. If ye would be well, therefore, if ye would have your heart dancing gladly like the April breeze, and your blood flowing like an April brook, up with the lark—"the merry lark," as Shakspeare calls it, which is "the ploughman's clock," to warn him of the dawn; up and breakfast on the morning air—fresh with the odor of budding flowers, and all the fragrance of the maiden spring; up from your nerve-destroying down bed, and from the foul air pent within your close-drawn curtains, and with the sun "walk o'er the dew of the far eastern hills." But we must defend the morning air from the aspersions of those who sit in their close airless studies, and talk of the chilling dew, and the unwholesome damps of the dawn: we have all the facts in our favor, that the fresh air of the morning is uniformly wholesome; and, having the facts, we pitch such shallow philosophy to fools who have nothing else for a foot-ball.

The Bible.—Sir W. Jones, a most accomplished scholar, who had made himself acquainted with eight and twenty languages, has left it on record, that amidst all his pursuits the study of the Sacred Volume had been his constant habit. Sir Isaac Newton, the greatest of mathematicians, was a diligent student of the Bible. Mr. Locke, a man of distinguished acuteness in the study of the human mind, wrote to recommend the study of the New Testament; as having "God for its author, salvation for its end, and truth unmixed with error, for its matter." Milton, the greatest of poets, evidently had his mind most deeply imbued with the study of the word of God. Boerhaave, eminent as a natural philosopher, spent the first hour of every day in meditation on the sacred pages. Here no man can say that he has not leisure. A most beneficent institution of our Creator has given us, for this duty, a seventh part of our time, one day in every week, one whole year out of every seven.

ROBIN HOOD.—Page 67.

ROBIN HOOD, THE OUTLAW.

The Norman kings of England — William the conqueror, Richard, &c—introduced such severe forest laws, as probably led to the commission of the very crimes they were intended to suppress. Persons living near the king's forests, at a time when people were every where trained to the use of the longbow, and many of them were very expert marksmen, would naturally become outlaws; and by forming into troops and fleeing to the woods, endeavor to defend themselves from the dreadful punishment to which they were exposed. Those who killed the king's deer, were to have their eyes put out, and to be otherwise mutilated. This will account for the many troops of banditti which lurked at that time, in the royal forests, and whom it was difficult to seize or overcome. Among these none was more distinguished than Robin Hood, whose chief residence was in Sherwood forest. The following, in the language of Stow, in his Annals, is a brief account of him.

"In this time (about 1190), were many robbers and outlaws, among which Robin Hood, and Little John, renowned theeves, continued in the woods, despoyling and robbing the goodes of the rich. They *killed* none but such as would invade them, or by resistance for their own defence. The said Robert, entertained a hundred tall men, and good archers, with such spoiles and theftes as he got, upon whom four hundred (were they ever so strong) durst not give the onset. He suffered no woman to be oppressed, or in any way molested; poore men's goods he spared, abundantlie relieving them with that

which, by theft, he got from abbeys and the houses of rich old earles, whom Maior, the historian, blamethe for his rapine and theft; but of all the theeves, he affirmeth him to be the prince, and the most gentle theefe."

The personal courage of this outlaw, his skill in archery, his humanity, and especially his *levelling principle*, of taking from the rich, and giving to the poor, have rendered him popular with certain classes of the community to this day. He came to his death, it is said, by treachery. The songs and stories which have been made about him are almost innumerable. The insertion of one of them may amuse our readers, and explain the engraving

ADVENTURE IN SHERWOOD FOREST.

There strides a warrior dark and grim,
Through Sherwood's sylvan shade,
And a battle-ax is held by him,
And keen is its polished blade;
And he is cased from top to toe
In panoply of steel,
From his nodding horsehair plume, I trow,
To the spur upon his heel.

He pauses—fronting in his path
Forth leaps a stalworth man;
The warrior trembled with very wrath,
And his tawny cheek grew wan.
For the stranger's name was Robin Hood,
And down he flung his glaive;
"Thou shalt fight," he cried, "or, by the rood,
I will brand thee an errant knave:"

"And I am a chief from Palestine,
So 'tis but meet and right
That I should cross my steel with thine,
Outlaw!" replied the knight.

They fought, and from the crosier's mail
Soon welled a purple flood;
Yet his blows they fell as quick as hail,
And every blow drew blood.

"A truce!" cried Robin, "thou shalt wend,
Bold swordsman, home with me,
For never did I hope to find
So brave a knight as thee."
"Then lead the way," the knight he said,
Nor Robin made reply,
Though haughty was the warrior's head,
And flashed his piercing eye;

But blithely blew his silver call,
And, ere the echoes slept,
One hundred archers, stout and tall,
Appeared at right and left:
"These are my body-guard, fair sir,
Should fortune prove unkind,
Or foes invade my haunts, there are
Full fifty more behind.

Yon coppice forms my leafy bower,
My realm is woman's heart:
Wo light on him who braves my power
Now tell me whom *thou* art?"
"I am KING RICHARD!—bowman stay,
No bending of the knee,
For I have proved thy brand to day,
Nor doubt thy loyalty."

Now rest the soul of Robin Hood,
For a gentle thief was he,
As ever ranged the gay green wood—
Now rest his company.
And, if ye chance fair Sherwood through
To bend your weary way,
Patter an Ave for Robin Hood,
And his gallant band, I pray.

1 2

TROPICAL FRUITS.—THE ORANGE FAMILY.

To the *Orange family* belong the Orange proper, (fig. 1,) the mandarin orange, the shaddock, (fig. 2,) and the lemon, (fig. 3,) or citron, (fig. 4,). But there are also several differing kinds of oranges, as well as of lemons.

There is also another division of the orange family into *eight* sorts. These are sweet oranges, bitter oranges, bergamottes, limes, pampelucos, sweet limes, lemons, and citrons. Of each of these there are also a great many varieties. The sweet orange has 43; the bitter orange 32; the bergamotte, 5; the lime 8; the pampelucos, 6; the sweet lime, 12; the lemon 47; and the citron, 17. Total 170.

The ORANGE is a taller and more beautiful tree than the lemon. Its usual height is about twenty-five feet; but it sometimes rises to the height of from thirty to fifty feet. Risso says that in 1789 there was one at Nice more than fifty feet high, and ten or twelve inches in diameter; bearing generally 5000 or 6000 oranges. One at Rome is said to be 600 years old.

The orange tree continues to blossom nearly all summer, and the fruit requires two years to come to maturity, so that for a considerable period of each year, a healthy tree has on it buds, flowers, and green and ripe fruit, at the same time. Most of the oranges intended for transportation are collected while green. This is done because, if they were not picked till ripe, they would be spoiled in transporting. It is also remarkable that those trees from which the fruit is gathered while green, bear fruit every year, while others bear only every second year.

The trade in oranges is very considerable. Great Britain alone is supposed to import 272,000

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4

000 of them in a year. The annual duty they pay on them in a year, is over $ 300,000. On the whole they are a pretty wholesome fruit, in the warm season. In the engraving, fig. 1 represents the orange.

The *shaddock* (fig. 2,) is much larger than the orange, both in the tree and the fruit. The tree is very lofty and spreading, and the fruit eight inches in circumference. This fruit is a native of China; where it is called sweet ball, but was transplanted into the West Indies by one Capt. Shaddock, from whom it took its name. It has, however, greatly degenerated there, owing probably to neglect. Some of them still retain their original sweetness; but others are very acid and unpleasant.

The LEMON (fig. 3,) is a native of southern Asia, but is now very extensively cultivated in the south of Europe, especially in Sicily, and its fruit forms a very important article of commerce. The stature of the tree is small; it is only a large shrub, hardly entitled to the name of *tree*. It is, however, very beautiful, and on this account, as well as on account of the fragrance of its flowers and fruit, it is a great favorite in all our green-houses. The shape of the fruit is rather oblong, but its internal structure does not differ essentially from the orange. The juice is acid, but rather agreeable; and when mixed with water forms *lemonade*, a refreshing drink known all over the civilized world. Except we are feverish, however, water is much better. Lemon juice is used by calico printers to discharge colors. The leaves contain a volatile oil.

The CITRON, fig. 4, is a thorny tree, about eight feet high, with pale green leaves. The flowers

are white, and have an agreeable odor. The fruit is oblong, and has a rough yellow rind. Its length is about ten inches. The outer part of its rind, like that of the orange, contains a considerable quantity of highly aromatic and inflammable oil. The pulp is white, but very acid; and is much used in preparing sweetmeats. The Jews used to make, from the citron, a particular conserve, to use at their Feast of Tabernacles. With a little artificial heat in the winter, we might doubtless have the citron in nearly as great perfection here, as in Spain or Italy.

The LIME, sometimes called the sour lemon, is a small and shrubby tree, the fruit of which is much smaller than that of the citron or lemon, being only about an inch or an inch and a half in diameter. It is much cultivated in the West Indies, and is a great favorite there, probably because it is much more acid and cooling than the lemon. The lime is not much cultivated, in as high latitudes as England or the United States.

In the West Indies they raise a kind of sweet lime, intermediate between the lemon and the sour lime, but we do not learn that the inhabitants attach much value to it

In regard to the use of tropical fruits, by people residing, as we do, in a northern country, there are different opinions. Some suppose that we should be more healthy without them; others think that the cooling juices of the orange and lemon, especially in the great heat of summer, are not only harmless, but on the whole beneficial. We are half inclined to the latter opinion. We think it possible that those especially, whose employments subject them to much exposure to the heat, *may* derive advantage from the moderate use of the orange, and occasionally of the lemon.

If no person was so situated as to be obliged to overheat himself, in the least degree, the case would be altered. But the world is not as some would be glad to have it in every respect. Man is yet doomed to toil, and probably always will be; though we hope not always to a degree of it which is excessive and injurious. For very hard labor, in the great summer heat, produces a feverish state of the body; and often a relaxed and weakened and perhaps a deranged state of the stomach and intestines. Now there is no doubt, that a moderate use of cooling fruits, of some sort, either foreign or domestic, taken under proper restrictions, will do much to counteract this tendency to disease.

Great caution, however, is necessary, both as to quality, and quantity: and also to the manner and time of using them. And hence arises our only strong objection to tropical fruits. In order to have the juices of fruits perfectly wholesome, they should be perfectly ripe; and should ripen in nature's own way. But the oranges and probably the lemons which are brought to us are picked, as we have already seen, before they are ripe. Can

they, therefore, be as wholesome as if they ripened on the trees?

May it not be possible, after all, that if we used no heating food, or drink, or condiments, during the hot season;—no very salt and indigestible meat or fish, no coffee, tea, or fermented liquors, no pepper, vinegar, mustard, &c. &c.—our own cooling fruits and berries, coming as they providentially do, just at the time when we want them for this purpose, would be sufficient to counteract all tendency to fever, or any other disease?—We are encouraged to put this question because we have known individuals—hard laborers, too,—who have made the experiment, with the most entire success.

But if people will continue to use foreign drugs and medicines and poisons, it is not for us to say, positively, that foreign fruits, however costly they may be, are not very convenient, to say the least. Possibly they are even beneficial.

THE DOG-DAYS.

Ancient Superstitions—Modern ones—Mad dogs—Folly of keeping so many dogs.

The ancient Egyptians thought that the great heat of July and August was owing, in some measure, to the influence of one of the fixed stars called Sirius, or Canicula, or still oftener the Dog-Star. When this star first began to be seen, rising in the morning, they expected great changes of various kinds. If it was of a golden color, it foretold a fruitful year, but if pale and dim, it portended scarcity. Even the Nile was thought to be affected by the Dog-star, for it began to overflow about this time.

The Greeks and other nations, ran into similar errors. Hippocrates and Pliny say that on the day when "Canicula first rises in the morning, the sea

boils, wine turns sour, dogs begin to grow mad, the bile increases and irritates, and all animals grow languid; and that the diseases ordinarily occasioned by it are burning fevers, dysenteries, and frenzies."

Now it happens, by the way, that this little star is at least 2,200,000,000,000 miles off. We should not think, therefore, it could have much influence upon our globe; certainly in the way of increasing its heat. But there is another difficulty. The time when this star commences rising in the morning, varies greatly. Formerly it was about the first of July, and terminated about the tenth of August. *Now*, its rising does not commence till about the middle of August. If it continues to rise later and later every year, dog-days will finally come in the winter. Of course, we may as well give up the notion that the Dog-star has influence over the weather, or over men and other animals.

But many will not so readily do this. There are a thousand superstitious notions abroad, about the dog-days. Certain sorts of work must or must not be performed, certain animals must not be killed for food; certain diseases are more dangerous, &c. The measles, though usually reckoned *contagious*, in some parts of the country is thought not to be contagious during dog-days. And we could name many other superstitious notions, not a whit better founded.

It is probable that mad dogs are more common in midsummer than at any other period, but they are not confined to that particular six weeks of time which we call dog-days, that we know of. However, they are a terrible evil; and it is worth while to consider, for one moment, how the evil can be met.

When a person is actually bitten, there is no cure, unless by cutting or burning out the part, immediately. The disease which follows, called the hydrophobia, is dreadful, at least to the by-standers. We do not know that the sufferer is very sensible to pain, himself. It is worthy of remark, however, that the disease does not always come on immediately. If we may believe the accounts which are recorded by physicians on this subject, months, and even years elapse, after a person is bitten, before the disease makes its attack.

Prevention, in this case, as well as in many others, is better than cure. But how shall the disease be prevented? Why not, by killing the dogs? With a very few exceptions, they are wholly useless, especially in cities. It is our decided opinion that they ought to be destroyed; at least in all populous places.

No doubt the owners of dogs will cry out, most loudly, against such advice. They will condemn a measure of the kind as barbarous. But are not *they* the barbarians, for keeping an animal so useless, and yet subject to a disease so fatal? Have they a right—whatever risk they may choose to run themselves, to be the means of compelling their families and friends and neighbors to run the risk of an almost certain and always cruel death?

"Oh! but dogs are useful," we shall be told. "They guard our houses by night; they go with our carts, and guard our goods by day; they drive away the neighbors' pigs or cattle; they catch our rats;—and then they are such faithful creatures!"

True, very true; but instead of house dogs, might we not get additional watchmen, or make those we now have in our cities more vigilant, by paying them better? So far as we know, our watch-

men are not usually paid more than half enough but it is a most miserable neglect of economy.

Instead of cart dogs, might we not employ boys, of whom there are often scores, half starving, who would willingly take care of carts, at little more than the expense of keeping the dogs? You may, perhaps, smile at the idea of this keeping of dogs being a very expensive business; but we have probably been able to show, in an article which we have already printed at page 61, that dog keeping is a pretty costly concern, after all. And as to catching rats, cats might be employed for that purpose, or they may easily be poisoned.

As to the faithfulness of dogs, we know how much is said in their favor, and how many stories there are of their saving people's lives in distress—and we believe these accounts are generally true. But this is only one side—the bright side—of the story. We are not told how many lives are *lost* every year by them. This is kept out of sight, as if on purpose to blind the public eye, and keep in fashion, a little longer, both dogs and the hydrophobia. It would be far better if, instead of cultivating the fidelity of dogs, we would take a little more pains to cultivate fidelity in ourselves, towards our neighbors.

"Then, you would deprive the poor man of his dog, would you?" To be sure. The poorer he is, the less need he has of a dog, and the less able is he to maintain one. Few poor men, especially in our cities, keep these animals for any thing better than sport. They have too much native New England economy left them, for that.

An act of Congress, inflicting heavy penalties for keeping dogs, empowering constables and other officers to destroy them, and paying them a premi-

um on each, would probably soon rid the country of that terrible and incurable disease, the hydrophobia. We do not say such a severe measure ought to be adopted immediately; but we do say that it would be likely to accomplish the object.

ON BATHING.

It is now the season for bathing; a refreshment too little taken in this country, either in summer or winter. We say in winter; for we cannot avoid urging this matter upon the community, as worthy of their attention, at all seasons. Convince people, for once, of its necessity, and the plea that it is inconvenient, would no longer be heard. Every family, in city and country, would forthwith attend to the subject. There might, we confess, be one difficulty to overcome. There is a vulgar error abroad that the warm bath relaxes the system. At least it is an error to suppose that it does so, of necessity. Excess, either of heat or cold—like any other excess—will unquestionably relax or debilitate. But the natural, and indeed the only effect of the warm bath, moderately taken, is that it promotes health by opening and cleansing the pores.

For ourselves, we have long ago discarded the idea—so common—that "dirt is healthy." The *air* and the *exercise*, which those people enjoy who labor at dirty employments,—not the dirt itself,—render them healthy. That is to say, so favorable to health, on the whole, are their occupations, that they are healthy in *spite* of the dirt. We cannot believe that it naturally conduces to health, to shut the millions and millions of openings in the skin, which, as so many sluices, were designed by nature, or rather by its all-wise Author, to carry out of the

system something which evidently ought not to remain. Physiologists tell us of thousands of these openings or pores, on a square inch. Is it safe to keep a considerable proportion of them shut by the filth which, without great pains, will accumulate? We have long believed otherwise. And yet how many do it!

That those who labor at employments which expose them to much dust, and even those who are unnecessarily dirty are, as a body, more healthy than the confined and sedentary, there can be no doubt. But that even these, especially the latter class, would be still *more* healthy and vigorous, and be subject to fewer diseases in advanced life, if they would cleanse their whole bodies oftener, in either warm or cold water, we are most thoroughly and deeply convinced.

The purposes of health may, to some extent, be secured, by simply sponging the surface of the body, every day, with water, and rubbing it with flannels. Still, we should greatly prefer the addition of a regular bath, two or three times a week. Or what would be pleasanter still, in summer; we like the idea of combining swimming and bathing. A father could thus teach his sons, or an instructer his scholars, that important art, which might, one day or other, be the means of saving their lives;—perhaps the lives of others. It is on this account that we have rejoiced to learn that swimming schools are established, in some parts of our country. The best with which we are acquainted, is in this city; and we cannot forbear to recommend it to the favorable notice of every parent and instructor. There is an account of this school in the "Annals of Education," for July 1833, to which are appended the following general rules to

be observed on entering cold water, either for swimming or mere bathing.

I. The proper hour for swimming or cold bathing, is between nine and eleven o'clock in the forenoon; that is, if we rise with the sun, as nature intended.

II. We ought always to go into cold water when the stomach is nearly or quite empty. If we breakfast early, this rule will necessarily follow the observance of the former.

III. We should enter while the temperature and vigor of our bodies are evidently *increasing;* but never when either is *declining.*

IV. We should go in *naturally*—not by plunging in head foremost; although there is a very common prejudice in favor of the latter method.

V. As regards the frequency and duration of bathing, and swimming, three times a week are generally sufficient. More than once, each day, would be positively injurious. The time spent in the water, should never exceed thirty minutes; generally ten to fifteen is long enough. In any case, however, should fatigue or chills come on, we must leave the water immediately, whether we have been in it one minute or thirty.

THE UNIVERSAL KINGDOM.

If the opinion of philosophers, that all the worlds which the Creator has formed, are peopled like this; and if we suppose them to have been inhabited as long as ours has been, and to be at the present time as well stocked with man and beast in proportion to their size, what an idea does this give us of the immensity of the great Jehovah's kingdom?

There is reason to believe, say philosophers and astronomers, that every one of the fixed stars, as they are called, are really suns to other systems of planets. About a thousand of these fixed stars may be seen at once by the naked eye. Now on the supposition,—and it is by no means an improbable one—that each set of planets is as numerous, and the planets as large as those belonging to our system, we proceed to make the following calculation.

The earth probably contains 750,000,000 of human beings. But the whole surface of Jupiter and Saturn, and the rest of the planets, must be at least 1,000 times as great as that of the earth; for the *bulk* of Jupiter and Saturn alone is 2,400 times as great. Now if these planets have 1000 times as many rational beings on them as the earth has, the whole population of our little system, leaving the sun itself and almost twenty moons out of question, is no less than 750,000,000,000.

Again; if there are 2000 fixed stars, *visible* to the naked eye from the whole surface of the globe, each of whose systems is as populous as ours, their population would be 1,500,000,000,000,000.

Once more. La Lande supposed the whole number of fixed stars was 75,000,000; and according to Herschell's own observations with his telescope, this is not probably an over estimate. But at this rate, the planets belonging to the whole of this ocean of suns would contain 112,500,000,000,000,000,000,000 of inhabitants!

Lastly, it must not be forgotten that we have excluded, in this calculation, the fixed stars or suns themselves, which, if peopled, and each as large as our sun, would hold more inhabitants than all their planets. Nor have we reckoned the moons; of

which there *may* be 1,350,000,000. Nor have we estimated the millions and millions of beasts, birds, fishes, reptiles and insects, or something analogous to them, which probably accompany the lord of all these regions. But suppose we had; could we stop then, and say, this is the utmost limit of the Creator's kingdom?

THE DEATHWATCH.

This little insect—alas! how little he knew the trouble he made—has been the means of making many a face turn pale, many a strong arm hang down, and many a thick set knee totter. Let those who have been frightened out of their wits, or who have had their wits frightened out of them by it, read the following prose account of it from Wallis, with a few lines of poetry from Swift. Let them read, we say, and remember their misery no more.

"The small insect called the deathwatch, is frequent among dust, and in decayed rotten wood, lonely and retired. It is small, of a dark brown, with irregular light brown spots, the belly plicated, and the wings under the cases pellucid; like other beetles, the helmet turned up, as is supposed, for hearing; the upper lip hard and shining. By its regular pulsations, like the ticking of a watch, it sometimes surprises those that are strangers to its nature and properties, who fancy its beating portends a family change, and the shortening of the thread of life. Put into a box, it may be heard and seen in the act of pulsation, with a small proboscis against the side of it, for food more probably than for pleasure, as some have fancied."

———A wood worm,
That lies in old wood, like a hare in her form,
With teeth or with claws, it will bite or will scratch,
And chambermaids reckon this worm a deathwatch:
Because like a watch it always cries click:
Then wo be to those in the house who are sick;
For as sure as a gun they will give up the ghost,
If the maggot cries click, when it scratches the post.
But a kettle of scalding hot water injected,
Infallibly cures all the timber affected:
The omen is broken, the danger is over,
The maggot will die, and the sick will recover.

PRESENCE OF MIND.—AN ANECDOTE.

During an alarm of fire in Beverly, Massachusetts, a few years since, a respectable mechanic had occasion to ascend the roof of a house, to extinguish a fire which was kindling among the shingles. He succeeded in ascending, but as the roof was wet, he could not retain his foothold, and began slowly to slide down. Most persons would have shrieked in despair, vainly trying to hold on by the shingles, and their desperation would probably have been increased by the terror and cries of the bystanders. Not so, however, with this gentleman. Though inevitable death seemed to stare him in the face, he had presence of mind to reason on the subject and do what he could. It instantly occurred to him, that a very slight check to his descent might save him, and putting his hand into his pocket, he drew out and opened his penknife, which he thrust into the shingles beneath his feet, arrested his downward progress, retained his position till assistance was procured, and he was taken off uninjured.

We were struck, not long since, with the re-

mark of a very aged gentleman, that one way of securing presence of mind when in actual danger, was to reflect much and often, when we are safe and unexposed, on the methods of escape which we ought to adopt in every exigency which we can possibly foresee.—There is certainly much of truth in the remark, as every one may be assured, who will make the experiment.

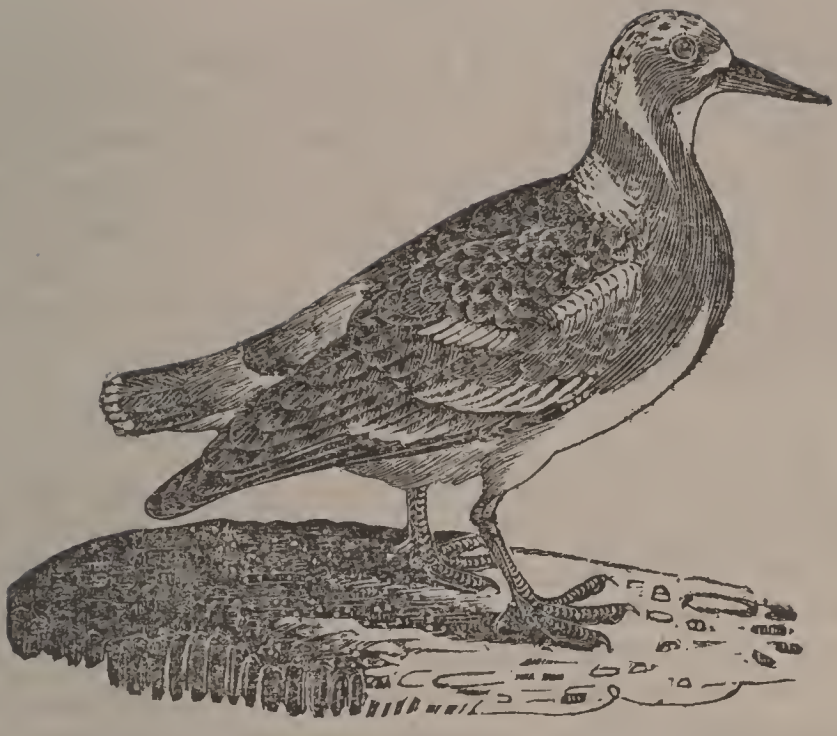
GYPSIES.

It has been said that there are no Gypsies in America. But if the account lately given by Dr. Jones of Mobile, to Professor Silliman be true, there is a colony of them on Biloxi Bay in Louisiana. They were brought over to this country and colonized by the French, in the early settlement of that state. They call themselves Egyptians, and speak the French language.

It is remarkable however that they are now entirely changed in their character and habits; and instead of an idle, wandering, strolling race, they have become in all respects much like the other French settlers of Louisiana. They are equally polite, hospitable, and intelligent. They also possess all the industry, and enjoy all the common comforts of a settled life. The only striking difference between them and the French generally is, that their complexion and hair are darker, and their hair coarser and straighter than that of the French.

A young man of the colony, has received a liberal education at Georgetown, D. C., and is now residing in New Orleans. He is a man of profound learning, and a good and ready writer.

If this statement is correct, it goes to disprove the old notion, that it was impossible for the Gypsies ever to be civilized.



THE TURNSTONE, OR DOTTEREL.

Name of this Bird—Description—Mode of taking it.

This bird is commonly called the *Turnstone*. Probably it took its name from the circumstance of its being in the habit of turning over stones to procure insects for food. It is found in some parts of Great Britain.

The length of a full grown dotterel is about nine inches. It has a most singular variety of colors. Its bill is black; its eyes dark, large, and full; its forehead a mixture of brown and white; and the top of the head black. Over each eye an arched line of white passes to the back part of the neck. The cheeks and throat are white. The back and wings are of a light brown inclining to olive; the margin of each feather being of a pale rust color. The quills are brown. The forepart of the neck

is surrounded by a broad band of a light olive color, bordered on the under side with white. The breast is of a pale orange; middle of the belly black; the rest of the belly and the legs are of a reddish white. The tail is olive brown, black near the end, and tipped with white. The legs are of a dark olive color.

The turnstone is a very stupid bird; and is easily taken. It was formerly customary to decoy them into the net, simply by stretching out a leg or an arm, which caught the attention of the birds, so that they returned it by a similar motion of a leg or wing, and were not aware till the net dropped and covered the whole flock.

HUMAN WEIGHT AND HEIGHT.

Weight of Infants—Adults—The Aged—Human Height. Reflections.

From observations recently made in Europe, it appears that the average weight of male infants at birth is about $6\frac{1}{2}$ pounds, and the height 1 foot $6\frac{1}{4}$ inches. The average weight of females at birth is a fraction less than 6 pounds, and the height 1 foot $5\frac{3}{4}$ inches. These facts seem to prove that there is a natural inequality in the two sexes, both as respects weight and height.

From birth to the age of seven days, the infant is said to *lose* in weight. From this time, however, its weight increases. This, if true, is a very curious circumstance.

During every period of life except one, the male is generally heavier than the female. At 12 years of age, they are usually about equal.

Man attains his greatest weight at 40, and be-

gins to lose, very sensibly, at 60. Woman does not attain her greatest weight till 50; but she does not appear to gain, perceptibly, from 18 to 40.

Both sexes, at the period of complete developement, weigh about twenty times as much as they did at birth. Their height is about $3\frac{1}{4}$ times what it was at birth.

In old age both sexes lose about 10 or 12 pounds of their weight, and three quarters of a inch in height.

The average weight of adult males, according to the foregoing estimate, is about 130; that of females a little less than 120. The average weight of males, (old and young taken together,) is 96 pounds; that of females 91 pounds;--that of an individual without any reference either to age or sex, 91 pounds.

The height of the Laplanders and Patagonians—the two extremes of the human race—is as follows:

The Laplander is from 4 to 4 feet 6 inches high. His average height is not far from 4 feet; and the women are nearly the same. The Patagonian males are from 5 feet 6 inches to 6 feet 3 inches. The women are generally 7 or 8 inches shorter.

It is thought that climate and locality have less to do with the stature of men than the *race*, though climate doubtless has some influence. The Pickerais, close by the Patagonians, are much inferior in height; and the Silesians, who are a short people, live near the Saxons, who are probably the tallest people in Europe.

The foregoing estimates are derived from the London Medical Gazette; and so far as weight is concerned, are based chiefly on observations made at the city of Brussels We believe that there is a greater inequality between adults of the two

THE MOON.

sexes, in *America*, than in Holland; that infants are heavier; and that the adult males of New England are 10 pounds, at the least, heavier than those of Brussels. We are also of opinion, that the *average* height of the men in Patagonia is rather more than appears from the above statement. We think it is nearly six feet.

THE MOON.

Size of this luminary—Distance from us—Change of appearance—Its surface—Mountains and valleys—Volcanoes.

The moon, though it appears to be almost as large as the sun, is 4,089 times smaller. The diameter of the sun, according to Sir John Herschel, is 882,000 miles; that of the moon, only 2,180. The reason why the moon appears so large, compared with the sun, is, because it is 300 times nearer to us. The distance from the centre of the earth, to the centre of the moon, is only 237,000 miles; which is less than ten times the earth's circumference; while from surface to surface of the two bodies, is only about 232,000.

The moon revolves round the earth, once in twenty-nine days, twelve hours, forty-four minutes, and nearly three seconds. The path in which it appears to travel, is called its *orbit*. This orbit is, of course, 474,000 miles, in diameter; or only a little more than one half the diameter of the sun's body. So that if the centre of the sun were placed where the centre of the earth now is, the sun is so large, that it would much more than fill the whole

of the moon's orbit. In other words, it is a great deal farther from the centre of the sun to its surface—almost twice as far—as from us to the moon.

As the moon, like the earth, has no light of its own, it only sends out light to us by reflection from the part of it which the sun shines upon. The sun always shines upon just half of the moon at once; as it does upon half of our earth. If there are inhabitants upon it, they must of course, have day and night like ourselves; though astronomers tell us that their day and night are much longer than ours. Now if the half of the moon which the sun shines upon, were constantly turned towards us, we should always have what is called a *full* moon. But as it often happens, that only a part of its enlightened surface is towards us, we have all the changes of new moon, first quarter, full moon, and last quarter.

The physical constitution of the moon is better known to us than that of any other heavenly body. By the aid of telescopes, we discern inequalities on its surface, which can be no other than mountains and valleys, for this plain reason, that we see the shadows cast by the mountains, in the exact proportion as to length, which they ought to have, when we take into account the inclination of the sun's rays to that part of the moon on which they are seen. The convex outline of the part which is turned towards the sun is always circular and very nearly smooth, but the opposite border of the enlightened part, which if the moon were a *perfect sphere*, ought to be an exact and sharply defined ellipse, is always observed to be extremely rugged, and indented with deep recesses and prominent points (as we see in the above representation.) The mountains near this rugged edge cast long

black shadows, as they should evidently do, when we consider that the sun is in the act of rising or setting to the parts of the moon so circumstanced. But as the enlightened edge advances beyond them, *i. e.* as the sun to them gains altitude, their shadows shorten; and at the full moon, when all the light falls in our line of sight, no shadows are seen on any part of her surface.

The heights of these mountains have many of them been calculated. The highest are about $1\frac{3}{4}$ English miles in perpendicular height. They are therefore somewhat higher, in proportion to the moon's diameter, than the Himmaleh mountains are to that of our globe.

The Lunar mountains generally present a striking uniformity and singularity of appearance. They are wonderfully numerous, occupying by far the greater portion of the surface, and are almost universally of an exactly circular or cup shaped form. Most of the larger ones have, however, a flat bottom within, from which rises centrally, a small, steep, conical hill. They appear, in short, like volcanoes, and have the true volcanic character. And in some of the principal ones, decisive marks of volcanic stratification, arising from successive deposits of ejected matter, may be clearly traced with powerful telescopes. What is, moreover, extremely singular, in the geology of the moon is, that although nothing having the character of seas can be traced, yet there are large regions perfectly level, and apparently of a decidedly *alluvial* character. The large dusky spots, which were formerly thought to be seas, are found upon close examination, to present appearances wholly incompatible with the supposition of deep water.

The moon turns on its axis, but not in twenty-

four hours, as the earth does. It is as long in doing this, as it is in going round the earth; and thus it is that we have the same side of this luminary always towards us.

The moon has no clouds, and, it is thought, no atmosphere. Had it any, it could not fail to be perceived in the occultations of stars, and the phenomena of solar eclipses. Hence its climate must be very extraordinary. For a fortnight, there must be an unmitigated and burning sunshine; while for the next fortnight a degree of cold and frost prevails, equal, at least, to that of our polar winters. It is also estimated, that the light of the moon is only one 300,000th part of that of the sun. Such a condition of things, must require different inhabitants — if it has inhabitants, at all,—from those on our own globe. We are justified in this conclusion, not only from the remarkable condition of the climate, but from the want of an atmosphere of air. It seems impossible that any forms of life, analogous to those on earth, can exist there. No appearance which indicates vegetation, or the slightest variation of surface, such as we should expect from a change of season, or from human art or labor, can any where be discovered. Telescopes must yet be greatly improved, before we can expect to see signs of inhabitants, as manifested by edifices, or any kind of changes, on its surface.

If there be inhabitants in the moon, resembling ourselves, the earth must present to them the extraordinary appearance of a bright body much larger than the moon appears to us, always standing still in the sky, while the stars must seem to pass slowly beside and behind it. It will appear clouded with variable spots, and belted with equatorial and tropical zones corresponding to our

trade-winds; but it may be doubted whether, in their perpetual change, the outlines of our seas and continents can ever be clearly discovered.

The great changes in the appearance of the moon, are designated, as we have already seen, by the names, of new moon, first quarter, full moon, and last quarter.

When, in the monthly progress of this body round the earth, it comes exactly between us and the sun, the sun's light strikes wholly on the other side of it, and leaves the part towards us wholly in the shade. No part of it is, therefore, now visible. But as soon as it gets a little way out from between us and the sun, the edge of it, or the side towards the sun, begins to be visible. This is called *new*

moon, and is here represented. The light streak grows broader every day, till half of the surface becomes enlightened. This takes up about a week. When we see half of it, we say the moon has *quartered;* and call it the *first* quarter. In the progress of another week, it gets round so far as to be ex-

actly opposite to the sun, with the earth midway between them. Then we see the whole of it; and we call it the *full moon*. This was represented on page 90.

Now it begins to *wane*, that is, lessen; and at the end of the third week, one half of it again becomes invisible, and we call this the last quarter. It has the same appearance now, as it had at the end of the first quarter.. It continues to diminish to the end of the fourth week, when it again gets exactly between us and the sun, and disappears.

Many a boy has wondered what those around him meant, by saying the moon had *quartered*, when it was a half moon; and not a few parents have neglected to satisfy children's inquiries. Now can any parent, who understands the simple explanation we have given (and what parent does not?), and wishes to encourage, rather than repress juvenile curiosity, refuse to tell his child, that a quarter of the time that the moon takes up in going round the earth, is called the *first* quarter; and that the last quarter is the *last* week of the same period?—That the word quarter does not relate to the *size of the*

moon, but to the *time taken up* in performing its revolution?

We have gone into this simple explanation, for the sake of those families and schools, whose peculiar circumstances have hitherto prevented any attention to this subject. When a parent shows his child the "spacious firmament on high," during the evening, one of the first things that arrests his attention is the moon "walking in" her silvery "brightness," amidst a host of equally bright but smaller bodies; and it is very natural to him to inquire what it is—what it is for—who made it—&c. It seems to us that no judicious parent should lose an opportunity,—so excellent—not only of enlarging his child's mind, but of leading him to form early conceptions of a Creator.

The moon, with the aid of the sun, causes the tides; in other words, the moon causes a heaping up of the waters of the ocean on that side which is towards it or nearly so; as well as on the side which is exactly opposite. We should be glad to enter upon this subject more particularly, but our plan and limits do not permit it, at present.

We would just observe, that there is much superstition abroad in the world, respecting the influence of the moon, not only over the mineral world, but over vegetables and animals. Many people fancy that they must sow their grain, kill their fattened animals, and manufacture certain things, at a particular time of the moon. A thousand notions of this kind might be mentioned. Certain operations upon men or other animals, such as bleeding, marking, &c. must, in the view of some people, be done at a particular time of the moon, or the animal will be apt to bleed to death. These superstitions, are, however, by far most common, where people are

the most ignorant. Certain diseases, madness for example, are sometimes supposed, even now, to be worse when the moon is of a certain size, than at others. Hence it was that in ancient times insane people were sometimes called *lunatics*, viz. because they were supposed to be under *lunar* influence.

Although we do not know with certainty, that the moon has *no* influence in any of these supposed circumstances, yet it appears most probable, that so little is known, with certainty, on the subject, that they act most wisely who sow their seed and perform all their other employments, when the earth, and things around them, are best adapted to this purpose; without paying much attention to the moon.

HINTS TO THE YOUNGER MEMBERS OF FAMILIES.

Wasting time in Bed. In all countries, and in all climates, we should try to sleep half our hours before midnight. The person who, instead of going to bed at nine, sits up till eleven, and then sleeps during two hours of daylight the following morning, is guilty of neglect of economy. For, suppose he makes this his constant practice, during his whole *business* life, say fifty years. The oil or tallow which he would consume would not be estimated at less than one cent an evening; which, in fifty years, would be $182.50. Not a very large sum to be sure; but, to every *young* man, worth saving.

Again, if an hour's sleep before midnight is worth more than an hour in the morning, then an hour in the morning is of course worth less than an hour before midnight; and a person must sleep a greater number of hours in the morning, to obtain an equal amount of rest. A person retiring

at eleven and rising at eight, would probably get no more rest, possibly less, than a person who should sleep from nine to five;—a period one hour shorter. But if so, he actually loses an hour of time a day. And you well know, if Franklin had not told you so, that *time is money.*

Now, if we estimate the value of this time at ten cents an hour for one person in four, of the population of the United States—and this is probably a fair estimate—the loss to an individual, in a year, or 313 working days, would be $31.30; and in 50 years, $1565. A sum sufficient to buy a good farm in many parts of the country. The loss to a population equal to that of the United States, would, in 50 years, be no less than five thousand and eighty six millions of dollars!

But this is not the whole loss. The time of the young and old is beyond all price, for the purposes of mental and moral improvement. Especially is this true of the precious golden hours of the morning. Think, then, of the immense waste in a year! At twelve hours a day, more than a million of years of valuable time are wasted annually in the United States.

I have hitherto made my estimates on the supposition that we do not sleep *too much*, in the aggregate, and that the only loss sustained arises from the *manner of procuring it.* But suppose, once more, we sleep an hour too much, daily. This involves a waste just twice as great as that which we have already estimated.

Do you startle at these estimates! It is proper that many of you should. You have mispent time enough. Think of Napoleon breaking up the boundaries of kingdoms, and dethroning kings; and to accomplish these results, going through with an amount

of mental and bodily labor that few constitutions would be equal to, with only *four hours of sleep in the twenty-four*. Think of Brougham too, who *works* as many hours, perhaps, as any man in England, and has as much influence, and yet sleeps as few; i. e., only four. A hundred persons might be named, and the list would include some of the greatest benefactors of their race, who never think of sleeping more than *six* hours a day. And yet many of you are scarcely contented with eight!

Would you conquer as Bonaparte did—not states, provinces, and empires,—but would you aspire to the high honor of conquering yourselves, and of extending your conquests, intellectually and morally, you must take the necessary steps. The path is a plain one; requiring nothing but a little moral courage. 'What man has done, man may do.' I know you do not and ought not to aspire to conquer kingdoms, or to become prime ministers; but you ought to aspire to get the victory over yourselves:—a victory as much more noble than those of Napoleon, and Cæsar, and Alexander, as intellectual and moral influence are superior to mere brute force, or, to use a bold comparison, as heaven is higher than hell.

Time enough to Read. Some of you will say you have no room for any thing of your own; that your whole time is at the will of your master or employer. But this is not so. There are few persons who are so entirely devoted to others as not to have minutes, if not hours, every day, which they can call their own. Now here it is that character is tried and proved. He alone who is wise in small matters, will be wise in large ones. Whether your unoccupied moments amount, in a day, to half an hour, or an hour, or two hours, have something

to do in each of them. If it be social conversation, the moment your hour arrives, engage in it at once; if study, engage at once in that. The very fact that you have but a very few minutes at your command, will create an interest in your employment during that time.

Perhaps no persons *read* to better purpose than those who have but very little leisure. Some of the very best minds have been formed in this manner. To repeat their names would be to mention a host of self-educated men, in this, and other countries. To show what can be done, I will mention one fact which fell under my own observation. A young man, about fifteen years of age, read Rollin's Ancient History through in about three months, or a fourth of a year; and few persons were ever more closely confined to a laborious employment than he. Now to read four such works as Rollin in a year, is by no means a matter to be despised

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TABLE OF THE PROBABILITY OF HUMAN LIFE.

The following Table, from the Maine Register, contains the number of years that any healthy person from the age of 1 to 92 years may expect to live. For example, a person at 40 may reasonably expect to live 25 years longer; and one at 80, has a chance to living 4. One use of this table is that if we buy an estate, and are to come into possession of it at the death of the person at present living upon it, by looking at the column entitled *age* for the present year of the incumbent's life, we shall find in the same line in the column entitled *chance* the number of years he may be expected to live:

that is, such a number of years that as many persons of his age over live as fall short of it.

Age.	Chance.	Age.	Chance.	Age.	Chance.	Age.	Chance.
1	43	24	35	47	20	70	8
2	45	25	35	48	20	71	7
3	46	26	34	49	19	72	7
4	47	27	33	50	18	73	7
5	47	28	33	51	18	74	6
6	47	29	32	52	17	75	6
7	46	30	31	53	17	76	6
8	46	31	31	54	16	77	5
9	46	32	30	55	16	78	5
10	45	33	29	56	15	79	5
11	44	34	29	57	14	80	4
12	44	35	28	58	14	81	4
13	43	36	27	59	13	82	4
14	42	37	27	60	13	83	4
15	42	38	26	61	12	84	3
16	41	39	25	62	12	85	3
17	40	40	25	63	11	86	3
18	39	41	24	64	11	87	3
19	39	42	23	65	10	88	3
20	38	43	23	66	10	89	2
21	37	44	22	67	9	90	2
22	37	45	22	68	9	91	2
23	36	46	21	69	8	92	1

Remarkable Longevity.—Died in Maury County, N. C, in January 1833 Betsey Tranham, aged 154 years. She emigrated from Germany to the United States, 120 years ago. Her only child, still living, was born when the mother was at the age of 65 years. She lost her eyesight at the age of 120, but at

the age of 134 it returned again, and was perfect till her death. For the last twenty years of her life, she could not, however, distinguish sugar from vinegar. Her hearing, too, was lost before her death, as well as her taste. It is said, moreover, that for several of the last years of her life, she was obliged to be placed between two feather beds in order to keep up a sufficient amount of heat to sustain life. She was probably the oldest person that ever deceased in the United States.

SONG OF AN AMERICAN IN TURKEY

There is music in the voice of mirth
  Now floating in the air;
I see the lovely of the earth;
  The innocent and fair.
But ne'er can beauty, gold, or slaves,
  Bring happiness to me:
The land where freedom's banner waves
  Is far beyond the sea.

The sunbeams ope the buds of spring
  Entwining around the bower,
The rose in pride is blossoming,
  With each sweet-scented flower.
I leave them for the hand that craves
  They lose their sweets on me:
The land where freedom's banner waves
  Is far beyond the sea.

Soft sylph-like forms are flitting by,
  To fancy's vision dear,
Enchanting with a look, the eye,
  With melody, the ear.
But yet my patriot-heart outbraves
  Their tenderness for me:
The land where freedom's banner waves
  Is far beyond the sea.

Commodore Tucker.—The venerable Samuel Tucker of Bremen Me., who died on the 10th of March, 1833, in the 86th year of his age, was the last surviving commodore of the revolution. He was a Marblehead mariner, and continued his seafaring course until the commencement of the difficulties with the mother country. He received the first written commission as commodore, which was issued during the Revolution, and was selected by Washington to convey John Adams, our first minister to France. It was on this occasion that he remained at the helm, while chased by a frigate of the enemy, *seventy-two hours at one time*, until nature absolutely sunk under the weight of fatigue and exhaustion. A kinder heart than the Commodore's never beat in the bosom of man. He was as hospitable, as sociable, and as peaceable in private life, as he was restless, vehement and strict in the discharge of his official duties. A pension of 600 dollars a year was recently settled by government on Commodore Tucker. "It came too late."

Singular Experiment.—One of the most remarkable and inexplicable experiments relative to the strength of the human frame, says Sir David Brewster, is that in which a heavy man is raised with the greatest facility, when he is lifted up the instant that his own lungs and those of the persons who raise him are inflated with air. This experiment was, I believe, first shown in England a few years ago by Major H., who saw it performed in a large party at Venice under the direction of an officer of the American Navy. As Major H. performed it more than once in my presence, I shall describe as nearly as possible the method which he prescribed. The heaviest person in the party lies down upon two chairs, his legs being supported by the one and his back by the other. Four persons, one at each leg, and one at each shoulder, then try to raise him, and they find his dead weight to be very great, from the difficulty they experience in supporting him. When he is replaced in the chair, each of the four persons takes hold of the body as before, and the person to be lifted gives two signals by clapping his hands. At the first signal he himself and the four lifters begin to draw a long and full breath, and when the inhalation is completed, or the lungs filled, the second signal is given, for raising the person from the chair. To his own surprise and that of his bearers, he rises with the greatest facility, as if he were no heavier than a feather.

THE CORMORANT,—Page 105.

THE CORVORANT.

Size of this bird—Its Color and Structure—Nest and Eggs—Pursuing its prey- Gluttonous — Structure of its nostrils—Trained to fish for its master.

This bird has sometimes been called the cormorant, and appears to belong to the family of the Pelicans. It is a sea bird inhabiting the coasts of both continents, and one of the largest size; weighing usually from five to seven pounds. That represented by the engraving weighed five pounds and three quarters. It was shot in the Bay of Dublin, and is described in the Dublin Penny Journal.

The body of the corvorant is of a shining black, and its bill is blackish. Its tail, which is fan-shaped, is long and black, consisting of fourteen feathers, each about six inches in length. The lower part of the legs is shining black, the upper part whitish, dotted with black. The base of the lower part of the mandible, or beak, is covered with a yellowish skin extending under the chin, and forming a pouch. The iris of the eye is of a beautiful emerald green.

The corvorant builds its nest on the highest part of the cliffs that hang over the sea, laying three or four pale green eggs, about as large as those of a goose. At first view, they appear to be poorly adapted to their mode of living, viz. by fishing; but though their legs are too short for wading, they

are most admirably calculated for swimming. They dive with great force, and pursue their prey under water, with great agility. If they seize a fish in any other way than by the head, they rise to the surface, toss the fish in the air, and catch it head foremost, as it falls. This enables them to swallow it without any trouble from its fins. This precaution is the more necessary, because they are very voracious, and cram rather than feed themselves.

They sometimes glut themselves to such an extent, that though naturally shy, they become dul and stupid, and are easily taken. Their smell, when alive, is very offensive,* and their flesh disgusting, even to savage nations.

This bird has been thought to have no nostrils; but the fact appears to be that its nostrils are in the roof or arch of the mouth. This is a most singular circumstance, and one which it is difficult to account for, at least in the present imperfect state of our knowledge of the great Creator's laws.

In China, the corvorant is not only domesticated, but trained to fish for its master. This training is begun by placing a ring upon the lower part of its neck, to prevent it from swallowing its prey; but after some time it is said that it learns to deliver its prey to its master without having the ring on it.

The Statue of Walter Scott is to stand on a bluff of the Eildon Hills, more than 1,300 feet high, in a situation to be seen from no less than thirteen counties.

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* Perhaps this is owing to its eating so much flesh. The breath and perspiration of animals generally,—man not excepted—are offensive, nearly in proportion to the quantity of *animal food* which is taken.

LA FAYETTE.

Few men have lived longer, in the same number of years than La Fayette. For it is but a common truism, that the length of a man's life does not depend wholly upon the number of his years. Perhaps it may not be improper to say that his life is the longest who accomplishes the most good; or, more correctly, who does the most good after the counterbalancing evil which he does is deducted.

La Fayette was not twenty years of age when he first arrived in the United States; and from that time till just before his death, he was much of the time employed in the most interesting and important public duties. He was in the service of the United States much of the time from April 1777, till about the commencement of the year 1783, when peace was made between Great Britain and the United States.

Between the close of the American revolution and the death of this great man, France was several times involved in civil wars, some of which were long and bloody. He was a conspicuous actor in all these seasons of peril,—a friend of liberty, but not of licentiousness; and it is not too much to say that no man ever made greater efforts to save his country from the horrors that accompanied both her revolutions, than La Fayette. But what can one man do, in a nation which is uneducated and unprepared for the enjoyment of true liberty? What man *could* do, La Fayette *did*, and if he could not be the means of leading his nation to happiness, he may at least have been the means of saving it from total extinction. Posterity will do him justice, and his name will be honored as long as the world contains any friends of true republicanism, or of civil or religious liberty.

La Fayette had been ill, but was supposed to be rather better. Suddenly, however, the violence of his symptoms returned, and in a short time, he expired. His last words related to an application to the chest to relieve his difficulty of breathing. When told by his attendants what they were doing, he only replied "C'est bien;" "It is well;" and the spirit of the aged patriot took its flight. La Fayette, at his death, was about seventy-seven years old.

LAND-BREEZE BETWEEN THE TROPICS.

"The forests of Brazil are filled with aromatic plants whose perfumes are often wafted many leagues to sea."

To the billow-borne pilgrim, alone on the seas,
How sweet comes the perfume of land with the breeze!
'Tis the breath of a summer, eternal in prime;
The kindliest fragance of sun-gladdened clime!

Those wanderings of sweetness, how welcome they are
That tell of a country unseen and afar.
Like the morning, their advent aye ushers a smile;
And the rover's heart dances in joyance the while.

To cheer his lone vigil at midnight, they tell
Of meadow and mountain, of forest and dell—
Till his eye o'er the ocean forgetteth to roam,
And he walks in his slumber the fields of his home

Thus oft on life's billow, with bark tempest driven,
The voyager fancies the breathings of Heaven!
The past and the present remembering no more,
He greets in his vision the world that 's before.

RUINS OF A ROMAN BRITISH CASTLE.

Go where we may, from Britain on the northwest, to the river Euphrates on the southeast, and we find traces of what Rome once was, in wealth power, and intelligence. At one time, we are reminded of her power by the old fortifications, castles, &c. which we find; at another, of her wealth and general intelligence, or at least her progress in the arts, by her architecture, her specimens of the fine arts, and her roads. These last deserve a moment's consideration. Perhaps we cannot give a more complete account of them, in little space, than by the following extract from "The First Foreign Mission," a work lately published in this city.

"All the cities of the Roman Empire, were con-

nected with each other, and with the Capital, by splendid public highways. These, issuing from the Forum of Rome, traversed Italy, extended through the provinces, and terminated only at the boundaries of the empire. One which passed from Rome through Asia Minor and Syria to Jerusalem, was 2068 miles in length.

These roads were divided by mile-stones, and ran in a direct line from one city to another, with very little regard to the obstacles either of nature or private property. Mountains were cut through, bold arches thrown over the broadest and most rapid streams, and beautiful fields and vineyards severed or destroyed. By whom these roads were erected, I have not been able to ascertain; probably by the Roman soldiers, in time of peace.

The middle part of the road was raised into a kind of terrace, which completely overlooked the adjacent country. It consisted of several strata of sand, gravel and cement, and was paved with large stones. Their construction was, in this way, so firm, that after the lapse of so many centuries, portions of them still remain. In some places near Rome, the roads were paved with granite.

Houses were erected on these roads, at the distance of only five or six miles. The advantages of receiving the earliest intelligence from every part of the empire, led the emperors, to establish regular posts. Each house along the roads was kept constantly provided with 40 horses; and with the help of these, as *relays*, it was easy to convey intelligence one hundred miles a day.

In the time of Theodosius Cæsarius, a magistrate of high rank 'went post' from Antioch, in Syria, to Constantinople; and, in one instance, travelled the whole distance, 665 miles, in five and

a half days, including the intervening nights. This would be a tolerably quick journey by land, even at the present day.

The use of these posts was almost exclusively for the public service, and was so rarely allowed to a private citizen, for his own business convenience, that Pliny, though a favorite, and a minister, was obliged to make an apology for granting post horses to a member of his family, on the most urgent business.

The representation, at the head of this article, of Roman Ruins in Great Britain, is found in Burgh, or Bures, a small village of about 1000 inhabitants, in the County of Suffolk, England, and about fifty miles from London. It is said to have once been a royal domain; and that one of the British Kings was crowned here. It is remarkable for nothing else, that we recollect, except that the spire of its church was struck by lightning, in 1773; and part of its bells melted.

THE NEW CONTINENT.

We suppose it can be no longer doubted that a new continent has been discovered. It has long been a matter of wonder why the Creator should cover three fourths of the earth with water; but for ourselves, we do not see why our wonder should be lessened at the discovery of a frozen region, which is probably uninhabited, either by man or beast.

It is supposed by some of our geographers and navigators that this new southern continent is 4000 miles in extent from east to west; that is, ex-

The Carnauba Tree

tending about 47° 31′ east, to 99° 29′ west: or, from the longitude of Madagascar to that of Cape Horn. Only about 300 miles of the coast have, however, been yet traced with certainty. This is at the eastern part, and is called Enderby's Land; and is about 66½ degrees south latitude. On account of the ice and the severe weather no one has yet landed at this point. A landing has, however, been made at another point, by Captain Briscoe, an Englishman, far to the south east of Cape Horn. This part of the continent (if it be really a continent) is to be called Graham's land. It is about 3000 miles from Enderby's land, and is utterly desolate, there being no vestige on it of animal or vegetable.

VALUABLE TREES.

The Carnauba tree—Its size—appearance—and uses—Camphire tree—where found—How camphire is obtained—its nature—and uses—Erroneous notions about it.

We present our readers with engravings of two foreign trees, both of which are useful and remarkable. The products of the Camphire tree are well known in all civilized countries. Those of the Carnauba are scarcely known out of Brazil.

The Carnauba, or Brazilian wax tree, is a species of palm growing in Brazil, and rising to the height of about thirty feet. The low lands upon the banks of some of the rivers are covered with it. The leaves are two feet in length, and while young, are folded much like a fan. When they afterwards expand, they are nearly two feet in length. If they are cut from the tree, as soon as they have reached their full growth, and dried in

the shade, a quantity of light colored scales will be loosened from their surface. These melt at about the heat of boiling water, and take the appearance of wax.

The wax is of a pale, straw color; and when cold, is hard and brittle. Alcohol, unless heated, will not dissolve it; but it may be dissolved by *fixed oils* (common oils, such as do not easily evaporate) at the temperature of boiling water. This wax possesses most of the properties of bees' wax; and made into candles, burns well, with a steady light. The addition of one eighth to one tenth part of tallow, however, greatly improves it. Three parts of this wax, and one part of bees' wax, will also make very good candles.

But the product of its leaves, is not the only useful part of this tree. The fruit, when green, after being boiled in many waters, affords a nutritive food. The pith of the young plants, after being bruised in water, is also applied to the same purpose. The kernel of the fruit, when ripe, is covered with a layer of sweet pulp, which is found to be a very wholesome food for cattle

The leaves make a durable covering for houses, and will withstand the weather, without requiring a change, for twenty years. The trunk of the tree is a useful wood for building houses, making fences, and a variety of other purposes.

The scientific name of the Camphire tree is *Laurus Camphora.* It is a species of laurel, and grows in China, Japan, Borneo, Sumatra, and several parts of India. It attains the size of our common oaks. The upper surface of its leaves is of a lively, shining green; the under part is of a yellower green, and has a silky appearance. The tree has a white flower, succeeded by a shining

The Camphire Tree.

purple berry of the size of a pea. This berry is composed of a small kernel, enclosed in a soft, pulpy substance, having the odor of cloves and camphire. The bark of the trunk of this tree is rather rough on the outside, but on the inside it is smooth and moist, and therefore easily separated from the wood, which is dry, and of a white color, and in much esteem for carpenter's purposes, being easy to work, light, durable, and not liable to be injured by insects.

Some travellers affirm that the old trees contain camphire so abundantly that on splitting open the trunk it is found in the form of large tears, so pure as not to need any refining. But the usual method of obtaining camphire is from the roots of the tree. For this purpose, pieces of these roots are put into an iron vessel, furnished with a capital, or large head; and this capital being filled with rice straw, the joinings are then luted, and heat is applied to the vessel. The heat detaches the camphire from the pieces of wood, in the form of a thick vapor, which ascends, and is condensed in the rice straw in the capital. The substance thus obtained by distillation, is commonly purified by mixing an ounce of quick-lime, with every pound of camphire, and distilling it a second time in large glass vessels. The Dutch, for a long time, were the only people who knew how to refine it, but it is now refined in England, and other parts of Europe.

Camphire is well known as a white, friable substance, having a peculiar aromatic odor, and a strong taste. It will melt when heated to a temperature of about 350 degrees of the common thermometer, and boil at 400. Its specific gravity (weight) is rather less than that of water. It is very inflammable. A small piece of it, held on

the point of a pin, and ignited by a candle, will burn for a considerable time, without leaving any residue. It may be burned while floating on the surface of water. It will dissolve in alcohol, ether, and oils. Water will dissolve a very small quantity of it; enough to impart to it its peculiar odor.

It is not a little remarkable that small fragments of camphire placed upon the surface of water, immediately begin to whirl round, and continue to do so, till they are either evaporated or dissolved. This has been supposed to be owing to the repulsive forces exerted upon the mass, by its vapour, in passing off in a horizontal direction.

Camphire is highly volatile, when exposed to the air; yet the best kind, when it is perfectly pure, does not suffer any perceptible loss. Why it should not, is rather difficult to say. How it can be constantly sending off particles, so as to fill the air for a considerable space round it with its odor, for months or years, and not lose in weight, is almost inconceivable. But particles must fly off from it, or we could not smell it. Must not those particles, then, be inconceivably small?

It is found, however, that camphire brought from Japan, and procured by boiling the wood, is so extremely volatile, that if in warm weather it is placed in an open vessel, it will, in time, evaporate completely. The best kind obtained in Japan, and made in the common way, from the roots, is not nearly so volatile. While the other kind would wholly evaporate, this sort would only lose 10 pounds in 100.

Camphire may be obtained, in small quantity, from many other trees and plants as well as the *Laurus Camphora*. It has been distilled from sage, thyme, zedoary, the anemone, and, we believe,

from the sassafras; and it may be formed by art. This is one of the most curious discoveries of modern chemistry. The process consists in passing muriatic gas through spirits of turpentine, in a peculiar manner, which we have not room to describe. Four pounds of oil of turpentine, exposed to the action of the acid gas procured from four pounds of common salt, and two of sulphuric acid, produce 30 ounces of camphire, having the taste, odor, and chemical properties of camphire procured from the tree.

This substance is chiefly used in medicine. It also enters into the composition of some of the varnishes, but not to any very great extent. In medicine it is very useful, though not very powerful. It will produce intoxication, like alcohol, opium, or any other narcotic. The old notion of its being a preventive of disease, by keeping off contagion, still prevails to a very great extent. Hence it was that during the prevalence of the cholera in the United States, the price of this drug rose to an enormous height, even in Boston, where only a few cases of disease actually occurred. But all this is sheer mistake. The best preventives of disease, are health and quiet of mind and body. It is even doubtful whether the celebrated "Vinegar of the Three Thieves," (into which composition it is probable camphire entered,) which they employed to defend them from the plague while robbing the houses of Marseilles, when the city was almost wholly depopulated by the plague, afforded them any security. Many a Christian and philanthropist, has gone safely through the same dangers without any drugs. If the medicines used on such occasions have efficacy, it is only by inspiring courage and confidence. These last are the best preventives against disease.

A FEW THOUGHTS,

FOR THOSE WHO THINK.

RESPIRATION is the scientific name of the process of breathing, or drawing air into the lungs, and expelling it again. "A full-grown person," say some of the papers, "who respires 20 times a minute, inhales each time 40 cubic inches of air, which is 48,000 solid inches in an hour, or 1,152,000 cubic inches in a day: a quantity equal to nearly 70 hogsheads."

The room, in which I sit, is a chamber of moderate size, say 15 feet square, and 7½ high. At the above rate, a person would respire once, all the air in it, in about 2½ days; or twelve persons, in five hours. But twelve persons cannot breathe in a *close* room with safety, till the air has all been breathed once over. The whole becomes in a degree impure from mixture, long before. Besides, the bad air is heavier than other air, and is most abundant in the lower part of the room.

I have seen many a school-room, not larger than this, with forty children seated in it. If shut up closely, and the room air tight, I think they would breathe the whole over, as high as their heads, in about fifty minutes. It happens, however, that rooms—school-rooms especially—are not thus air tight.

PERSPIRATION. "Keil, by a very accurate set of experiments, ascertained that in his own person he perspired thirty-one ounces in twenty-four hours. Hales, by experiments equally accurate, determined that a sun-flower of the weight of three

pounds only, throws off twenty-two ounces in the same period of time, or nearly half its own weight."

But what is *perspiration?* Plain as the answer to the question may be, to a portion of the community, it is not understood at all by many. Some attach no definite idea to the term. Others seeing the word "experiments," and several *figures* in the same connection, conclude, at once, that it is something tedious or difficult, or perhaps beyond their comprehension, and pass over it. Others still, have no idea that a person *perspires* at all, except when that profuse discharge takes place from the vessels, commonly known by the name *sweating*.

Now sweating is only an increased and *profuse* discharge from the vessels at the surface of the skin, of the same fluid which is passing off, so long as we are in health, at every moment of our lives. If we sit near a white wall in a hot summer's day, with the sun shining both on us and the wall, we may see the shadow of masses of vapor ascending like smoke on the wall. Or take a looking glass and hold it within about an inch of the body or limbs of a person, and you will soon find it dimmed by moisture. That this effect is not produced by our breathing, is plain, because if we hold our breath, or place the mirror opposite our back, the same result follows.

The truth is that every square inch of the surface of the human body — except perhaps the eyeballs, nails, &c. has in it thousands (probably tens of thousands) of small holes, or pores, from which, so long as we are in health, a vapor, more or less abundant according to circumstances, is constantly issuing. To check this moisture—let it be done by what means it may—and to let it remain check-

ed for a considerable time, produces mischief. Sometimes the evil appears in the form of what we call colds; at others it produces rheumatisms, fevers, and consumptions. To *increase* it, very greatly, for any considerable time, so that a person is said to sweat *profusely*, unless done for the purpose of removing disease which already exists, is also injurious in the end.

But perspiration may be checked or rendered profuse, in a great many ways. Some of these may be pointed out hereafter; as well as the manner in which such effects operate to produce dangerous diseases. I do not believe all adult persons in health ought to perspire as *much* in twenty-four hours as Keil says he did. Still they ought to *perspire*, at all times, and in *considerable* quantity; and whether the pores of the skin are stopped by dirt, or by uncleanly garments, or by great cold or heat, or by sudden chills, the consequences, in time, may be equally dreadful.

HORRORS OF WAR.

It has been computed that 210 battles had been fought, in England, from the invasion of Cæsar, to the close of the Scotch rebellion, in 1745. In only 40 of these is the slaughter ascertained, but in those forty battles no less than 580,000 men were sacrificed.

An able writer (Edmund Burke) calculated that the number of human beings who have been slain in battle, and who have perished in a no less miserable manner by the consequences of war, from the beginning of the world to the commencement of the French Revolution, was at least seventy times

the number of souls then on the globe; which, at the calculation of five hundred millions for its population, amount to the almost incredible number of thirty-five thousand millions.

All these have been hurried into the presence of their Judge, and among them, we may fear, there were but very few who did not burn with rage, and reek with their brother's blood. This heart-rending calculation was made, before the exploits of Napolean deprived Europe of two millions more of her sons.

But this is merely an outline of war's dismal picture; for who can delineate the tears, the blood, the broken hearts, the anguish, and the wailing, that form the filling up?

NEW ENGLAND.

The hills of New England—
  How proudly they rise,
In the wildness of grandeur
  To blend with the skies!
With their far azure outline,
  And tall ancient trees;—
New England, my country,
  I love thee for these!

The vales of New England
  That cradle her streams;
That smile in their greenness
  Like land in our dreams;
All sunny with pleasure,
  Embosomed in ease,—
New England, my country,
  I love thee for these!

The woods of New England—
  Still verdant and high,
Though rocked by the tempests
  Of ages gone by;
Romance dims their arches
  And speaks in the breeze,—
New England, my country
  I love thee for these!

The streams of New England,
  That roar as they go;
Or seem in their stillness
  But dreaming to flow:
O bright gilds the sunbeam
  Their march to the seas,—
New England, my country,
  I love thee for these!

The homes of New England,
  Free, fortuned and fair;
O many a heart treasures
  Its seraphim there!
E'en more than thy mountains
  Or streamlets, they please,—
New England, my country.
  I love thee for these!

God shield thee, New England,
  Dear land of my birth!
And thy children that wander
  Afar o'er the earth;
Thou 'rt my country, wherever
  My lot shall be cast,—
Take thou to thy bosom
  My ashes, at last!

Those who receive, best know how the thing should be given.

There are few mortals so insensible that their affections cannot be gained by mildness.

If you would destroy your own repose, disturb that of your neighbor.

MIS-EDUCATION, OR THE STORY OF ST. DUNSTAN.

St. Dunstan was born near Glastonbury, in England, in the tenth century. His health was naturally delicate, but his love for learning was very great, and the progress he made so rapid, that he is said to have soon excelled his instructors. He was not only fond of science, but of the arts, particularly music, painting, and working in metals, in all which he greatly excelled. He had also a genius for poetry. So superior was he to most of the youth of his age around him, and so much given to solitude, musing, and poetry, that his character was wholly misunderstood; and early notions prevailed —in that superstitious age—that he had intercourse with the world of spirits.

While he was yet quite young, he was afflicted with a species of mania, or slow brain fever, which was supposed to have arisen from tasking his mind excessively. In one of his fits of delirium, he leaped from his bed; his attendants followed him; but finding it difficult to restrain him, they suffered him to roam at large over the surrounding country. One day, in his wanderings, he came to the church in Glastonbury, which was at that time undergoing repairs, and having swiftly ascended a scaffolding affixed to a building, he entered it through a window, or some fracture in the roof, and descending on the inside, safely reached the bottom of the church, and fell into a profound sleep. On this circumstance was founded the marvellous story that he was driven from his bed by demons in the shape of coal-black dogs, who chased him over the country, till he was relieved by an angel, who drove them away, and gently helped him into the church. It seems that he related this story himself in after years; and converted it, with many others of a similar character, into an engine for securing the objects of his boundless ambition.

From that mistaken notion, which parents often imbibe, to bring a "forward boy" into public notice, Dunstan, while yet a mere boy, was sent to court. Here he was taken great notice of, by the king, and by others. But this only excited the jealousy and envy of the courtiers, and they charged him with sorcery. Finally, the king half believed their stories; and finding himself fast getting into trouble, he returned 'to his books, his pen, and his workshop.'

Archbishop Athelm, his uncle, who had been the means of sending him to court, now determined to make him a monk. Had he been let alone, at this

time, he would probably have made a very useful man in the world. He was ardently attached to a young lady of great worth, and had they been united, there is little doubt that his mighty talents would have been exerted in some way or other which would have rendered him a great blessing to mankind. But the Archbishop, by his well meant but ill judged interference, broke up the attachment. Finding the young man obstinately opposed to becoming a monk, he had uttered a curse against him, which wrought so much on his sensitive mind, that it threw him into a disease from which he but just recovered. Believing his disease to be a judgment from Heaven upon him, he consented, upon his recovery, to become a monk.

No sooner was this done, than he excavated with his own hands, in the churchyard of Glastonbury, a species of cell, where he buried himself, as it were, in solitude. It had no window, except an aperture in the door which covered it over, and it was barely large enough to contain one person and the apparatus which was necessary to his favorite art, the working of metals. The sound of his hammer in the night, and many fearful cries and lamentations which were heard from his cell, by the neighbors, used to excite much surprise; but Dunstan accounted for them by saying that the noises were occasioned by a struggle with a demon, which was sent there to torment him.

These circumstances, together with his singular abstinence from food and sleep, led the inhabitants of Glastonbury and its vicinity almost to worship him. But the young monk seemed to pay no regard to it. About this time a lady who died left him a large property. This he distributed among the poor, as if he was dead to the world, with its allurements and pleasures.

Now it was that the king summoned him to Court; and under the plea that "every soul should be subject to the higher powers," he gratified his burning ambition, which reigned within, and appeared.

He was now in his 22d year. About this time he was made an Abbot. But all his natural tenderness of feeling was eradicated, his heart was hardened by superstition, and he began from this time forth to act the part of a stern, haughty, tyrannical despot, and to support his pretensions by the most wicked imposture.

The king offered him the Bishopric of Winchester, but he declined it with great pretended humility, and said he was unworthy to hold any office whatever. But a few days afterward, he came in great haste one morning to the king, and said that the Apostle Peter had visited him during the night and reproved him sharply because he refused office, and charged him to do so no more. From this time he was looked upon as the divinely appointed successor to the Archbishop, now greatly advanced in years. It is said that before his death, he not only held that office, but three other powerful Bishoprics.

On the death of the king, who had placed all his wealth and all the treasure of the crown in Dunstan's hands, he contrived to apply the whole of it to the use of the church. Over the new king, he had almost entire control, and he was a most severe and tyrannical master. He went so far at one time, that the king roused to resentment would not brook his conduct, and he retired for a short time to Flanders.

This new king, as well as his queen, died very early. The king's younger brother only fourteen

years of age, reigned in his stead. St. Dunstan was recalled, but he became a more complete and fearless despot than ever. Pretending to have communication with Heaven, he contrived to get power almost unlimited, into his hands. Proceeding from step to step, he finally came out boldly against the married clergy, and compelled them all either to renounce their families and children, and become Benedictine monks, or to quit the country. Some took the one course, and some the other. St. Dunstan even went so far as to feign, with the help of others, a miracle, in order that he might complete his work of usurpation, but the story is too tedious as well as too disgusting to relate.

One singular circumstance, which goes to show his great power, must be related. At a Synod of the Clergy, which was held when the opposition to St. Dunstan was becoming strong, just as he was appealing to Heaven to support the justice of his cause, a dreadful sound of crashing timbers, mingled with cries and shrieks, was heard; and the whole of that part of the flooring where the opponents of St. Dunstan were seated, suddenly gave way, precipitating them into the chambers below, killing some, wounding many others, and more or less injuring nearly all of them.

This fact, which we suppose to be undisputed, is accounted for by historians on the supposition that it was a contrived plan of St. Dunstan. Indeed there can be little doubt of it. At all events he gained his point by it, reinstated himself in what appeared to be the dearest object of his soul, unbounded power.

But we have said enough about him. We have seen how a gentle youth, by means of misguided friends and a misguided education, became a most

lawless tyrant; and instead of being what he might have been, a blessing to his race, becoming one of the greatest scourges of the people, which England ever had. He died as he lived, feared but not loved; fawned upon, but despised and hated. His death took place not far from the year 1000.

EDUCATION IN HENRY THE EIGHTH'S REIGN.

Before the Reformation, young men were educated in monasteries, and women in nunneries; where the latter were instructed in writing, drawing, cookery, and needle work, and what were then regarded as female accomplishments, in physic and surgery. The acquisitions of the former, were limited to writing, and a tincture probably of barbarous Latin; but ignorance was so common, that Fitzherbert recommends to gentlemen unable to commit notes to writing, the practice of notching a stick to assist their memories. When removed from these seminaries to the houses of their parents, both sexes were treated in a manner that precluded improvement. Domestic manners were severe and formal; a haughty reserve was affected by the old, and an abject deference exacted from the young. Sons, when arrived at manhood, are represented as standing silent and uncovered in their father's presence; and daughters, though women, were placed like statues at the cupboard, nor permitted to sit and repose themselves till their mother retired.

Maxims.- Books have more influence on the happiness of mankind than all the governments on earth.

Tear off the skin of a person, rather than diminish his self-love. Man is an idol, to which his fellow must sacrifice.

DRIVING WILD CATTLE.

There is a tract of country in the south-western part of Italy, which is called the Maremma. It is a flat, unhealthy region, particularly during the summer months, when all the inhabitants, who are able, remove from the place. There are no cottages or gardens to be seen scattered over the land; but here and there a dark, dismal-looking castle appears, which seems only to make the solitude more dreary.

The only stationary population in the Maremma consists of the cow and buffalo-keepers, and the forest rangers. The former are always mounted on horseback and armed with a lance, with which they keep in order the wild cows and fierce bulls, which are let to roam about these solitudes. These keepers lead a life of freedom and independence, like that of the Arabs of the desert. They are paid by yearly wages, besides which they generally rear up cattle of their own, which are allowed to feed with the rest.

These people retire in the summer months to the shady forests which line the seashore, and where the air is not so unwholesome as in the open plains. There, also, criminals escaped from the pursuits of justice take shelter, and are sometimes employed as wood rangers or buffalo drivers by the people of the neighboring farms. The above cut represents the mode of driving cattle to the towns. The animals are often so unruly, that their drivers are obliged to prick them with sharp-pointed lances, in order to keep them in subjection.

Driving Wild Cattle in the Maremma.

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THE TRAGACANTH.

Description—Its Gum; how procured—Uses.

This is a small prickly shrub, not more than three feet in height, growing in many parts of the Levant. It is chiefly valuable for its gum, which is sometimes called gum-tragacanth, and at others, gum-dragon.

The gum exudes spontaneously in June and the following months, during which time the nutritious juice of the plant, thickened by the summer heat, bursts most of the vessels in which it is confined. This juice coagulates in threads, which make their way into the pores of the bark, through which, being pushed forward by fresh juice, they issue forth, and are at length hardened in the air, either in irregular lumps, or in long vermicular pieces bent into a variety of shapes. The best sort is white and semi-transparent, dry, but somewhat soft to the touch.

This is a more costly gum than gum-arabic. Both are used in medicine, and in some of the arts. In dyeing, gum-tragacanth is, however, much the most valuable.

The quantity of gum-tragacanth retained in Great Britain, for home consumption, in the year 1830, was 29,725 lbs.

THE FIG.

Antiquity of the fig—Used as food—The flower—Caprification—Three crops in a year—Fig harvest—Size of the figtree.

The Fig was probably known to the people of the East long before they learned the art of raising wheat, barley, &c.; and it is supposed that it stood in the same relation to the earliest inhabitants of the world, that the banana does to the Indian tribes of South America at the present time. It required but little cultivation, and yet yielded a nutritious food, whether in a fresh or dried state. As we proceed to a more advanced period of the world's history, we still find the fig an object

of general attention. If the figtree did not blossom, the Jews regarded it as a most grievous calamity. The Athenians regarded this fruit of so much consequence, that they forbid its exportation. In the processions of Rome, in honor of Bacchus, the fig was carried next to the vine. Among the presents which the widow of Nabal brought to David, were cakes of figs. When Lycurgus decreed that the men of Sparta should dine in a common hall, each individual was required to contribute to the general stock, by bringing flour, wine, cheese and *figs*. All this goes to prove that the fig contributed very largely to human support. The circumstance that it was considered a peculiar blessing of Heaven for every man to sit "under his own figtree," also shows its importance.

The fig has no visible flower. The fruit arises immediately from the joints of the tree, in the form of little buds, with a perforation at the end; but never opening or showing any thing like petals. As the fig enlarges, the flower comes to maturity in its concealment.

In many eastern countries this fruit is subjected to a singular process, called *caprification*. This is performed by suspending, by threads, above the

cultivated figs, branches of the wild fig, which are full of a certain kind of insect. When the insect has become winged, it quits the wild figs, and penetrates the cultivated ones, for the purpose of laying its eggs; and this, by puncturing the pulp, and causing a dispersion or circulation of the nutritious juices, hastens the ripening of the fruit. In France this operation is imitated, by inserting straws, dipped in olive oil.

In the most favourable climates, the fig tree offers its fruit, throughout a considerable portion of the year. The first ripe figs, according to Dr. Shaw, are called boccôre, and come to maturity about the end of June. When the boccôre draws towards perfection, the karmouse, or summer fig, begins to be formed. This is the crop which is dried. When the karmouse ripens in Syria and Barbary, then appears a third crop, which often hangs and ripens upon the tree after the leaves are shed.

The time of gathering the summer figs, and of drying and packing them for the European market, is one of great bustle and activity. The principal seat of this commerce is Smyrna. Besides being a chief article of sustenance to the native population, 900 tons are sent annually from Turkey to Great Britain.

Though the fig flourishes best in mild climates, it will grow, even in Great Britain. It is occasionally cultivated, even in the gardens of New England, but not without great pains; and the fruit hardly finds time to ripen.

Gardens of fig trees are often raised in England, for ornament. One at Tarring, two miles from Worthing, is called, by way of distinction, "The Fig Garden." The trees are above eighty in

number, and grow luxuriantly.* They are at the distance of about twelve feet from each other; and are about fifteen feet high, and from six to eleven inches in diameter. It is said that they have been planted about forty years. We believe they are seldom more than a foot in diameter, in any country.

TROLLING FOR ROCK FISH.

The rock fish is universally known in all the rivers, and smaller tide-water streams, throughout the United States. The following is a description of the mode in which this fish is trolled for in the Susquehannah.

The season for trolling begins in the latter part of May, and commonly ends about the middle of July; but some years, lasts during August. In the month of June, the rock fish generally bite best. To make good fishing, the river should not be very high nor low, muddy nor clear, but betwixt extremes in these respects. If the water be clear, the fish dart off at sight of the line; and it is thought, they leave the rapids, when the river is rising, or muddy, to feed upon the flats in the Chesapeake.

Trolling is very much practised from Port Deposit, to almost any given distance up the river, but not below. The grass that the ducks feed upon, grows too thick on the flats in tide-water for trolling, and the channel is uniformly too deep.

* It is probably well known that almost all the fruits which ripen first, on trees, shrubs, vines, &c.—ripen *prematurely;* that is, because they have been penetrated by some insect, or have had their pulp broken in upon by accident. Hence it is that the first fruits, of almost every sort, which are brought to market, are no only less cleanly, but less wholesome; like the *caprified* figs.

The rapids above, where the water is in many parts shoal, and the rocky bottom clear of grass, is the proper place for trolling.

Two persons generally fish from the same boat; one of them steers with one hand, and fishes with the other. Each fisherman lets his line out over the side of the boat nearest to him, and close to the stern, (where they sit,) holding it in his hand, a few inches from the water, and leaves the end attached to the cork in the bottom of the boat. He throws out nearly all his line, and keeps constantly pulling it, by short jerks, to feel if it is running over a rock or tree top. The boat is rowed as fast as possible across the river, from shore to shore, above, and as near to the falls as they can go, to avoid being swept down them. The rock fish lie below the falls and ripples, waiting for the small fish that are carried over by the current. Here then the bait falls over, with a constant rotary motion, like a live fish whirled over, side foremost, and struggles in vain against the falls. The swivels turn every time the bait turns, and prevent the line from twisting up into knots; and as there are no sinkers, the rapid head-way of the boat drags them along so fast that the lines have no time to sink. At sight of the bait tumbling over the falls, the rock fish darts upwards from his cavern in the rocks, and swallows hook and all. The bite of the rock fish is quick as lightning, and gives a sudden jerk to the arm of the fisherman. When he first discovers he is snared, he rises to the top of the water, and begins to lash it furiously with his forked tail, like 'a spirit conjured from the vasty deep,' then plunges down again to the bottom. He is dragged from thence by the fisherman, who hauls in his long line, hand over hand, until he brings

his fish alongside of the boat. If he is of tolerable size, weighing only seven or ten pounds, the troller lifts him into the boat by the line; but if the fish is large, he runs his arm down into the water, and lifts him in by his gills.

The excitement that this scene produces, in all those in the boat, is not to be described. One instant you see the fish making the water foam with his tail, the next you lose sight of him; one instant the troller feels him jerking desperately backwards, the next he darts ahead towards the boat, carrying the line with him; and the fisherman, who ceases to feel him, is distressed for fear he has broken loose from the hook. The colored oarsmen cease rowing, to laugh and shout with great glee. The troller's anxiety to secure his fish is so great, that he alone, of all the company, is silent, and full of uneasiness, until he gets him into the boat. In this manner, it is not unusual to catch, with two lines, ten or twenty fish, varying in weight from five to twenty pounds each, in an hour—sometimes they are caught much larger. When the fish do not bite fast, the troller does not become wearied soon; his line is always out, and he is in constant expectation of feeling a bite, as the boat glides backwards and forwards across the river, in search of luck. He is not confined to one rock, like the sleepy angler.

This would be very dangerous sport to persons unaccustomed to it. The flat-bottomed boat must be rowed through the most dangerous falls and whirlpools in the river. Sometimes she is forced, at an imperceptible progress, against a current running down at an angle of forty-five degrees. If one of the oarsmen happens to fail in strength or to dip his oar with a false stroke, the curren

1

Spring Wheat.

2

Winter Wheat.

will snatch it upwards out of his hands, and the frail skiff will be dashed to pieces amongst the rocks. Often they are obliged to get out of the boat on some rock above water, and haul her over. A person unaccustomed to it, cannot rely upon his senses of hearing or seeing. He is first deafened by the stunning roar of the incessant flood, then sickened by the tossing of the skiff amongst the waves and eddies. The huge rocks that rear themselves thick, to oppose the rushing waters, covered with eagles, and cormorants, and the little islands all *seem to be* swimming backwards. And now she flies across a shoal—at first glimpse, the little skiff seems to rest securely on the bottom; at the next, the solid bottom appears deceitfully to recede from beneath her, and leave her to founder in the dark waters of a bottomless swirl. And again, before *he* is aware of it, she seems to have approached so near the falls that nothing can prevent her from going over side foremost. All these false appearances rushing in succession, quick as thought, upon the mind of the troubled novice, turn his brain with dizziness.

SUBSTANCES USED FOR HUMAN FOOD.

Fig. 1, represents the ear and plant of spring wheat; fig. 2, of winter wheat; fig. 3, of spring barley, and fig. 4, of winter barley.

Wheat.—Wheat is one of the staple commodities of the Middle United States, and is raised in some of them in very great abundance. Besides furnishing a supply for home consumption, the states of New York and Pennsylvania export to

other states and countries an immense quantity of wheat flour, and of the very best quality.

Of all substances used for bread, wheat is probably the best; and, perhaps, with suitable care and cultivation, there are few temperate regions in which it will not flourish. In no country has it been more skilfully cultivated—out of the United States—than in Great Britain; and nowhere have greater changes taken place, in respect to the use of an article of food, during the last eighty years, than in England and Wales. Then, the richest families hardly used a peck of wheat in a year, and that was at Christmas. But in 1828, it was estimated that the consumption was equal to 100,000,000 bushels; or seven bushels to each individual in a year. The change has been great in New England within thirty years. In 1800, very few families in the interior of New England used any wheat. A few of the more wealthy bought a few pounds of flour once a year. Their bread was chiefly made of rye, or Indian corn.

The produce of this grain, in quantity, varies much with the soil and mode of cultivation. It is probable, however, that much more depends on cultivation than on all other circumstances; for while the best soils of England would produce only twelve bushels of wheat an acre 600 years ago, eighteen 250 years ago, and twenty-two 60 years ago; an average crop is now estimated at from twenty-four to twenty-eight. In one whole county, Middlesex, the average is forty bushels. But the soil, in the meantime, has remained about the same. The changes in the United States, in this respect, have not been so great, yet they have been quite obvious.

It may be doubted whether any limits can at

present be assigned to the possible production of an acre of land, in this grain, though we know that there must be limits which cannot be passed. But if the average quantity has doubled in the same soil in 600 years, who shall say that the present quantity produced may not be doubled in 600 years to come?

The following is the appearance of a full grown and perfect grain of wheat. There are probably over 615,000 of them in a bushel.

The following curious experiment is said to have been made on the growing wheat plant, by a Mr. Miller of Cambridge, England. He sowed, on the second of June, a few kernels of wheat, and one of the plants which sprung up, so spread and divided, that on the eighth of August he was able to separate it into eighteen plants, all of which were placed separately in the ground. In the course of September and October, so many of these plants had again multiplied their stalks, that the number of plants which were separately set out to stand the winter was sixty-seven. These again began to branch out in the spring, so that at the beginning of April a farther division was made. The number of plants now amounted to 500. They proved extremely vigorous; much more so than wheat under the ordinary culture, so that the number of ears submitted to the sickle was 21,109, or more than 40 to each of the divided plants. In some instances there were 100 ears upon each plant. The ears were remarkably fine, some being six or seven

inches long, and containing 60 or 70 grains. The wheat, being separated from the straw, weighed forty-seven pounds and seven ounces, and measured three pecks and three quarters. The estimated number of grains was 576,840.

Such an enormous increase is not, of course, attainable on any great scale, nor by the common modes of culture. But the experiment is useful as showing the vast power of increase with which the most valuable of vegetables is endowed, and which, by judiciously varying the mode of tillage, may possibly, in time, be brought into beneficial action.

Wheat is subject to disease,—blight and mildew —and also to the ravages of insects, among which is the Hessian fly. When healthy and sound, a bushel of good wheat weighs about 60 pounds. Of this, about two pounds are said to be lost in the process of grinding, and three more are coarse bran, leaving about 55 pounds, suitable for bread.

We have said that wheat is probably the best substance for bread, which is known. But the common practice of grinding it very fine, and separating a very large portion of the bran and coarse parts, though it renders it whiter, greatly impairs its excellence. It makes it more indigestible, for it becomes more like a mass of paste in the stomach; besides, it does not act with sufficient energy on the coats of the intestines. The kind of bread, now fast coming into general use, commonly called Graham's bread, is the most wholesome kind of bread in the world; and daily use renders it one of the most palatable. To a pure, unperverted taste, it would always be so.

Spring Wheat.—Winter wheat is frequently much injured, if not wholly destroyed by a cold and rainy spring. On this account it is that spring or sum-

mer wheat is sometimes sown; but it is not quite so good, for two reasons. A bushel of it contains rather less nutriment than a bushel of winter wheat. Besides, the proportion of *gluten*, which is an important part of bread corn, is only as 19 in spring wheat, while in winter wheat, it is 24. The spring wheat is said to be a native of Siberia.

Winter Wheat is more strong and vigorous in its appearance, has thicker ears, and is more destitute of beard, than the former kind. It is sown in autumn, stands through the winter, and ripens its seed in the following summer. In New England, wheat has given place in no small degree to rye.

Barley.—Barley has not yet been very much cultivated in the United States; its consumption, however, is greatly increasing. In some countries, it is a more important grain than any other, except wheat. Of late, however, its use as bread has been diminishing, while its conversion into a stimulating drink, has been increasing. In 1830 there were 30,000,000 bushels of barley converted into strong drink in Great Britain. This makes more than 8,000,000 barrels of beer, of which four fifths are strong beer, or ale. Barley is not so heavy as wheat. A bushel weighs about 50 pounds. Barley contains a less proportion of gluten than wheat, and is therefore not so well adapted to the purposes of bread.

"The Egyptians have a tradition, from which they believe, that of all the grains barley is that one which was first used for the sustenance of man Their histories assert that a knowledge of the art of cultivating this grain was imparted to their ancestors by the goddess Isis, who, having discovered the plant growing wild in the woods, instructed men how to cultivate it, so as at once to increase

3

Spring Barley.

4

Winter Barley.

the quantity and improve the quality of its produce.

"Uninstructed people are generally prone to refer to supernatural agency, the origin of all events for which they are otherwise unable to account. Dr. Franklin has related, as coming from the lips of a chief of the Susquehannah Indians, a tradition very similar to that of the Egyptians. 'In the beginning,' said this child of nature, 'our fathers had only the flesh of animals to subsist on; and if their hunting was unsuccessful, they were starving. Two of our young hunters having killed a deer, made a fire in the woods to broil some part of it. When they were about to satisfy their hunger, they beheld a beautiful young woman descend from the clouds, and seat herself on that hill which you see yonder among the blue mountains. They said to each other, "It is a spirit that perhaps has smelt our broiling venison, and wishes to eat of it; let us offer some to her." They presented her with the tongue; she was pleased with the taste of it, and said, "Your kindness shall be rewarded. Come to this place after thirteen moons, and you shall find something that will be of great benefit in nourishing you and your children to the latest generations." They did so, and to their great surprise found plants they had never seen before, but which from that ancient time have been constantly cultivated among us to our great advantage. Where her right hand had touched the ground, they found maize; where her left hand had touched it, they found kidney beans; and where she had seated herself they found tobacco.'"

Spring Barley.—This is not so hardy a plant as the winter barley. There are two or three sorts of spring barley. One of these was brought from Siberia, but the origin of the others is not known

Spring barley is the kind most commonly cultivated in England.

Winter Barley.—In the manufacture of ale this kind of barley is thought not quite so valuable as the other; but the grains are large and plump, and for making bread it is probably as good as spring barley. The number of grains in each ear is greater in the proportion of three to two. They are disposed in six rows, two of these being on each of two sides, and one row on each of the other sides.

The Rye Plant.

Rye.—In many parts of New England, rye is very extensively cultivated. The use of this grain, for bread, has been for some years diminishing; still it forms the principal part of the bread of a large proportion of the interior of New England,

and, next to wheat, is undoubtedly the best. Although its use, as a means of human support, has not been increasing, it is raised in greater quantities than formerly; and may be regarded, in many parts of the country, as one of the staple productions. The reason of this is that it is a very *sure* crop. Cold, wet springs, though they injure it, do not affect it so much as they do other crops; besides, it exhausts the soil far less than Indian corn or indeed most other kinds of grain. It is found to be an excellent substance in the fattening of swine and cattle. Whiskey has been distilled from it, in very large quantities; but this abominable practice, we may hope, is now passing away.

Is it not most surprising, that the public opinion should have tolerated so long, the practice of converting the most nutritious substances into a drink which, at best, contains very little nutriment, and which certainly contains poison? Thirty million bushels of barley converted into beer in a single country, and in one year! Why, the barley would sustain, for a year, several millions of inhabitants.

We must protest against the distillation of any kind of bread corn, when the object of such distillation is merely to procure a common drink. Mankind, as a general rule, need no drink but water. It will be soon enough to substitute other drinks which are inferior, when water cannot be had.

THE PROGRESS OF KNOWLEDGE.

Libraries.—These arose, usually, from very small beginnings. One of the first public libraries in Italy was founded by a person of no considera-

ble fortune; but his credit, frugality and fortitude were equal to a treasury. His name was Nicholas Niccoli. He was the son of a merchant, and was at first a merchant himself; but after the death of his father, he relinquished the beaten roads of gain and devoted his mind to study, and to assist other students. At his death, he bequeathed his library to the public. The Vatican library, at Rome, which now contains 360,000 volumes and 40,000 manuscripts, was founded by Nicholas V. The rudiments of the first public library at Venice were furnished by Cardinal Bessarion. Julius Cæsar established a large library, and Augustus two. At a little later period, there were twenty-eight public libraries in Rome, besides many private ones. But these treasures were destroyed or dispersed by the ravages of the barbarians, and by other means.

In the latter part of the eighth century, a few libraries were established in the West, by the efforts of Charlemagne. A few, which were valuable, were also established in Germany in the eleventh century; and in the twelfth century, the Moors in Spain had seventy public libraries, one of which, that at Cordova, contained 250,000 volumes.

The library of Oxford, now containing 250,000 vols. and 30,000 MSS., in the year 1300, consisted of a few tracts, kept in chests. The first private library in England, was established about the year 1341, by Richard de Bury, Bishop of Durham, and chancellor and high treasurer of the kingdom. He purchased thirty or forty volumes of the Abbot of St. Albans, for fifty pounds' weight of silver. He was so enamored of his large collection, that he expressly composed a treatise on the love of books, which he called *Philobiblion*. It was not till a century later, however, that England had made much progress in the formation of libraries.

Nor was France much before England in this respect. About the year 1300, the library of Louis IX contained only four classical authors. In 1364, the royal library of France, now containing 400,000 printed books, and 80,000 MSS., did not exceed twenty volumes. Charles V. shortly after, increased it to nine hundred. What formed the collection, at that time, however, was purchased by the Duke of Bedford and transported to London, in 1440. About the beginning of the sixteenth century, 600 to 800 volumes formed a royal collection of books, and their value was so great, that they could only be purchased by a prince. Trithemius, an abbot, in Germany, who died in 1516, had amassed 2000 MSS., a literary treasure of such magnitude, that princes and eminent men of the day made very considerable journeys on purpose to visit him and his library.

The difficulties of such a task as that of Trithemius, must have been greater than most of us are aware. The value of manuscripts was most surprising. They were important articles of commerce. Usurers considered them as precious objects for pawn. A student of Pavia, reduced to poverty by his debaucheries, raised a new fortune by leaving in pawn, a manuscript of a body of law; and a grammarian, who was ruined by a fire, rebuilt his house by means of two volumes of Cicero! It is also related that, about this period, a countess of Anjou bought a favorite book of homilies "for 200 sheep, some skins of martens, and bushels of wheat and rye."

It was no longer ago than the fifteenth century, that some would transfer an estate for the possession of a manuscript, or leave in pawn for its loan

hundreds of golden crowns. Even the sale of a manuscript was considered of such importance as to have been solemnly registered in public acts. Louis XI could not obtain the MS of Rasis, an Arabian writer, to make a copy for the library of the faculty of Paris, without pledging a hundred gold crowns. For the loan of a volume of Avicenna, a baron offered a pledge of $30, which was refused!

How surprising a change in the progress of three centuries! There are, in twenty of the principal libraries in Europe, at least 4,266,000 volumes of printed books, besides 290,000 manuscript volumes, averaging more than 213,000 volumes each; and even in the United States there are four, which, together, contain 105,000 volumes. Then the smaller public libraries on both continents, especially in the Northern United States, Scotland, and England, are almost innumerable. So numerous are they, and so easy to be procured, that almost any individual has abundant means of obtaining as many books as he can peruse. Even in France, there are, at least, 273 libraries containing 3,000,000 volumes.

POISONOUS HONEY.

People are sometimes poisoned with honey; and, in a few instances, death has occurred in this way. It is new honey which is said—and probably with truth, to produce the mischief. Not that new honey has, *in itself*, any properties different from that which is old; but the fact appears to be that bees, in some instances, gather their honey from poisonous plants, and somehow or other take in a little of the poison; and this poison being volatile in its nature, flies off as the honey grows old, especially if it is not very closely covered.

It is well known, too, that many of the vegetable poisons are sweet in their taste, and that men are deceived by them. Many an individual has lost his life by eating certain roots which are poisonous, as the hemlock. It is not to be wondered at, therefore, that we cannot detect it in the honey while eating it. Still less are we to wonder that it does not poison the bees themselves; for it may not even be poisonous to them at all. The herbivorous quadrupeds eat many plants and shrubs with impunity, which would destroy human life immediately.

In Persia, bees are supposed to feed on the flower of the aconite or monkshood, which is said to affect the honey and render it intoxicating, and sometimes poisonous.

ANECDOTE OF ZENO, THE PHILOSOPHER.

This eminent philosopher was a native of Cyprus. The early part of his life was spent in commercial pursuits. As he was returning from one of his voyages to Phœnicia, a storm drove his vessel on shore near Athens, but the crew escaped in safety. Zeno, in a melancholy mood, entered a bookstore to pass away his hours, and happening to take up a volume written by Xenophon, he was so captivated by that philosopher, that he immediately renounced his commercial pursuits, and applied himself to the study of philosophy. He soon became distinguished for his wisdom and knowledge; and it was not long before he opened an academy in Athens. He became the founder of the sect of the Stoics, and after teaching his doctrines publicly for 48 years, and living a very regular and temperate life, he died at the advanced age of 98 years.

This is an eminent example of what is commonly called self education. It also affords a striking encouragement to those who are compelled to begin their studies late in life. For though we would never encourage a single individual to begin late who has it in his power to begin early, yet to those who have been precluded by unfavorable circumstances from early study, and who are afraid it is now too late to commence, we would say, Look at Zeno!—This philosopher, at the beginning of his studies, must have been about 40 years of age.

AN AMERICAN HERCULANEUM.

So many wonderful accounts of western and southwestern antiquities in the United States have appeared—and so many, too, which are well authenticated, that we feel very little disposition to doubt the truth of the following account of a subterranean Indian village lately found in Georgia. It is in Nacooche valley, and was discovered by some gold miners, while excavating a canal for the purpose of washing their gold.

The depth to which this American Herculaneum is covered, varies from seven to nine feet; some of the houses are imbedded in a stratum of rich auriferous gravel. They are thirty-four in number, built of logs, from six to ten inches in diameter, and from ten to twelve feet in length. The walls are from three to six feet in height, forming a continuous line or street of 300 feet. The logs are hewed and notched, as at the present day. The land beneath which they were found, was covered at its first settlement by the whites, with a heavy growth of timber, denoting a great antiquity to these buildings, and a powerful cause which submerged them. Cane

baskets and fragments of earthen ware were found in the rooms.

TO A WATER-FOWL.

Whither, 'midst falling dew,
While glow the heavens with the last steps of day,
Far through their rosy depths, dost thou pursue
Thy solitary way?
Vainly the fowler's eye
Might mark thy distant flight to do thee wrong,
As darkly painted on the crimson sky
Thy figure floats along.

Seek'st thou the plashy brink
Of weedy lake, or maze of river wide,
Or where the rocky billows rise and sink
On the chafed ocean side?
There is a Power whose care
Teaches thy way along that pathless coast,—
The desert and illimitable air,—
Lone wandering, but not lost.

All day thy wings have fanned,
At that far height, the cold thin atmosphere;
Yet stoop not, weary to the welcome land,
Though the dark night is near.
And soon that toil shall end;
Soon shalt thou find a summer home, and rest,
And scream among thy fellows; reeds shall bend
Soon o'er thy sheltered nest.

Thou 'rt gone, the abyss of heaven
Hath swallowed up thy form; yet on my heart
Deeply hath sunk the lesson thou hast given,
And shall not soon depart.
He, who from zone to zone
Guides through the boundless sky the certain flight,
In the long way that I must tread alone,
Will lead my steps aright.

INSECT ANATOMY.

GOAT-MOTH CATERPILLAR.

Our first object will be to explain the word *muscle*. To many people it conveys no other idea than that of one species of shell-fish which they have heard called by this name; while to some it conveys no idea at all. Now it would be quite idle to use the word half a dozen or a dozen times—as very probably we may—in the present article, when a large proportion of our readers become no wiser for it.

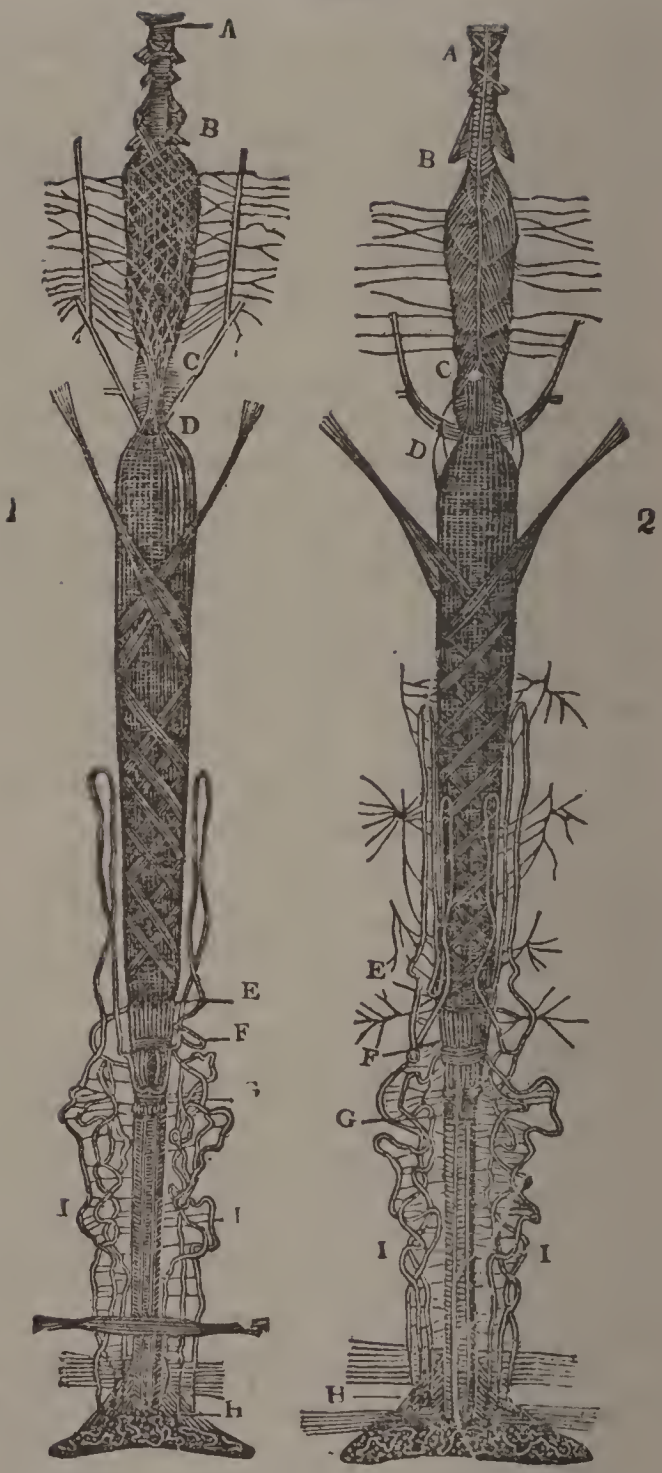
Those parts of the human body which we call muscles are the parts which are chiefly concerned in producing motion; for without them man would be as fixed to one spot as a tree. They are parcels of red fibres, which in very large masses we call flesh. They seem to be collected, on almost every part of the body, in bundles; most of which are

larger in the middle, and somewhat tapering towards each end. These ends are usually so fastened to the various bones of the body, that when we wish to move, and determine to do so immediately, these muscles, by contracting or shortening, enable us to move our limbs or our bodies, as we intended. They are in short, a most wonderful part of the human machinery.

Now insects have these same moving powers, in some sort or other. The fibres of which they are made are not always red, however; nor are they always attached to bones at either end, for many insects have no bones at all. Still they exist, and insect motion as well as human motion is performed by them.

The muscles of man are very strong; but those of insects are much stronger. We have an example of this in the flea. Why, if the muscles in the legs of a man were as strong in proportion to his weight, as those of the flea, he ought to be able to leap twenty rods! Several insects have muscles six times as strong, in proportion to their size, as ours. It is said that if the elephant were as strong, in proportion, as the beetle, he might tear up rocks, and level mountains.

The muscular power of fish is nearly as great as that of insects. "I have seen," says Sir Gilbert Blane, "the sword of a sword-fish sticking in a plank which it had penetrated from side to side; and when it is considered that the animal was then moving through a medium even a thousand times more dense than that through which a bird cleaves its course, at different heights of the atmosphere, and that this was performed in the same direction with the ship, what a conception do we form of this display of muscular strength!" It should, however,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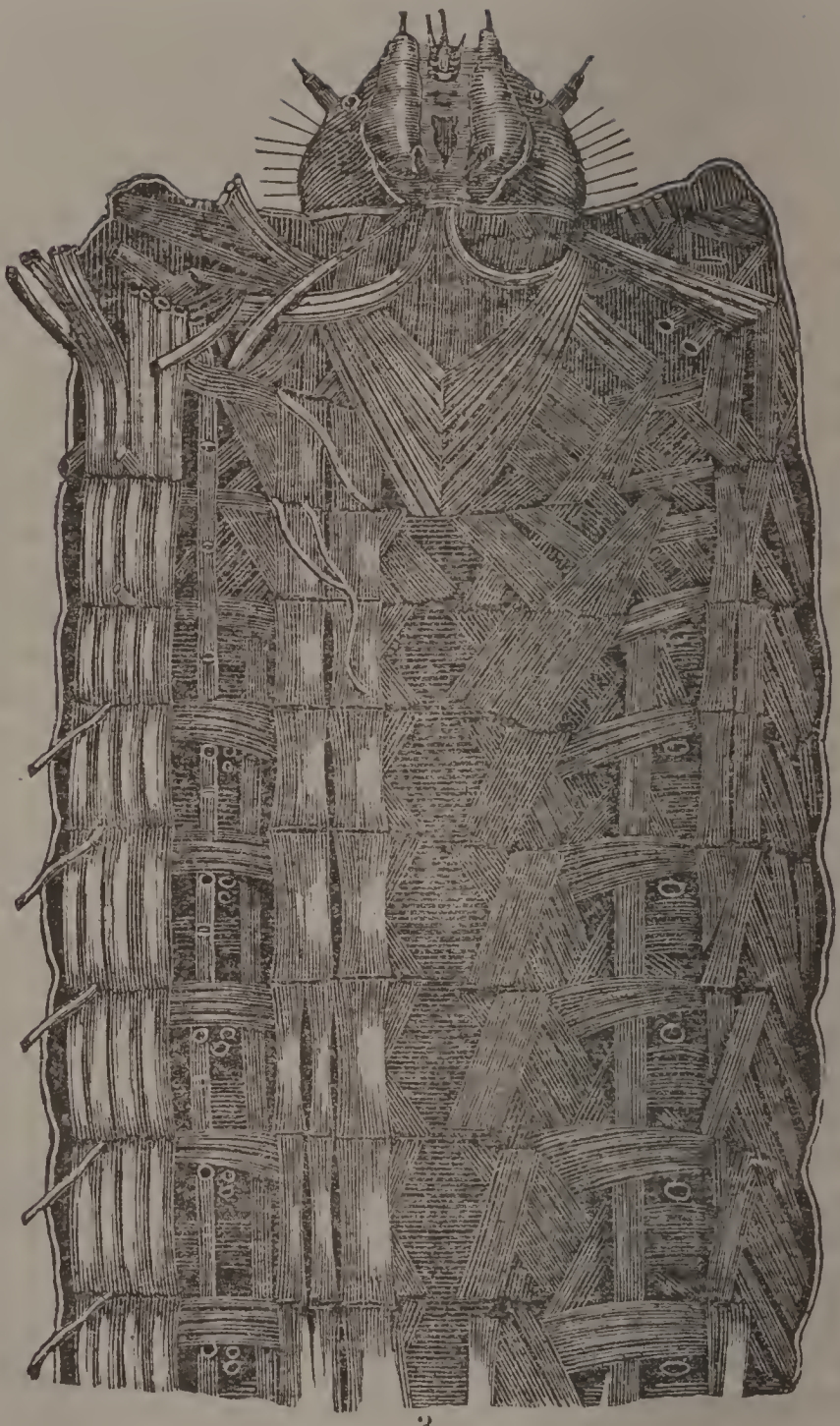
be observed, that the muscular power of the sword-fish is principally shown in the rate of swimming, by which the animal overtakes the ships, and thus acquires the momentum which determines the force of the blow.

We may understand the immediate cause of the strength of insects, when we look at the prodigious number of their muscles. These instruments of motion in the human body amount to about 529; but in the caterpillar of the goat-moth, Lyonnet counted more than seven times as many: in the head, 228; in the body, 1647; and around the intestines, 2186; which, after deducting 20, common to the head and gullet, gives a total of 4061.

The first cut, fig. 1. represents the internal parts of the caterpillar: the throat, stomach, intestines, &c. You here have a view of the upper side or back of the animal. Fig. 2. on the right hand side of the page is the same, only you look upon the under instead of the upper side.

In both of these engravings, A. B. C. represent the esophagus or gullet, and its appendages. D. E. represent the stomach, round which a pair of muscles wind in a spiral manner, which, by their contracting, squeeze the digested food into the intestines. E. F. show the first large intestine, or the portion next to the stomach. F. G show the next portion. G. H. the third. I. J. the six small intestines.

"Any person who was fond of viewing an exhibition of fine lace would experience an unexpected gratifications could he be brought to examine the muscles of a caterpillar under the microscope. With wonder and delight she would survey the innumerable muscular threads that in various directions envelope the gullet, stomach, and lower intestines



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of one of those little animals;—some running longitudinally, others transversely, others crossing each other obliquely, so as to form a pattern of rhomboids or squares; others, again, surrounding the intestine like so many rings, and almost all exhibiting the appearance of being woven, and resembling fine lace,—one pattern ornamenting one organ; another, a second; and another, a third."

But to our own eye, fig. 3. in our engraving, is the most curious. Here we see the upper half of the goat-moth, so magnified as to exhibit its muscles very plainly. They appear, as you see, like a great many short bands, most of them running lengthwise of the animal. Some however run obliquely, and a few crosswise. Their arrangement might remind us of the muscles of the human back, if we had ever seen the latter; though they are certainly more numerous, as well as broken up into shorter divisions, in the goat-moth, than in man.

This whole concern of muscular motion is, however beyond our comprehension. The wisest anatomist in the world is about as ignorant on this point as a child. He knows indeed that when man or any other animal wishes to move a part of his body or the whole of it, he has only to *will* the proper motion, and the muscles that are necessary to his purpose, by contracting, so as to draw the parts in certain directions, perform the work. But he does not know *how* he can do this. All he knows is that he can do it; and the manner of performing it.

Thus when we wish to go forward, we will to put one of our feet farther onward, and almost instantly certain muscles of the thigh and calf of the leg shorten, and pulling upon the heel, draw up the

foot; while in the next instant, these relax, and another set extend the limb, and at the same time throw it forward. So if we wish to bring up the hand to the head, a cluster of muscles which go from the shoulder to the arm, a little below the elbow, shorten, and accomplish the work. We may perceive this process going on, for ourselves, very plainly. Laughing is performed by certain muscles in the cheek shortening. One end of them is fastened to the bones, and the other near the corner of the mouth, so that if they contract, as they can not pull the bone towards the angle of the mouth, they pull the angle of the mouth towards the ear.

It is curious to perceive that when a muscle shortens it also swells in the middle. You may easily observe this—and doubtless often have observed it—when you bring your hand to your head as before mentioned. You have only to take hold of the arm between the shoulder and elbow, while motion is going on. Indeed you can *see* the parts enlarge, while they shorten.

SKETCHES OF GEORGIA.

SAVANNAH.

Savannah is a city of shade trees, being completely shut out from the sun by that beautiful and frequent tree, the pride of India. Its climate is delightful. The thermometer, for several weeks past, (May 20) has ranged from sixty to seventy degrees, except during a few days, when it rose to eighty-five or eighty-eight. The atmosphere is truly bland, having no harshness, either of heat or cold.

The commerce of this city, though the principal seaport in the state, owing to various causes, has gone several degrees backwards; and has no prospect of rising.

The society is in a high degree intelligent and refined, though a little tinctured with aristocracy, like every place upon the earth where human beings, especially civilized beings, have long existed. Like nearly every other county in the state, it has an Academy, erected and sustained by legislative patronage. The Academy buildings are the most expensive of any in the state, and cost $ 100,000 They are at present occupied by not less than twelve or thirteen teachers, in two schools, entirely distinct. In both are about 350 pupils, a majority of girls.

In Dec. a Lyceum was organized, which is going on with increasing operations and success. It is divided into several departments, and more classes. The ladies have very spirited movements in their department, in which they ply the book and the needle with equal skill and success. Their objects are "intellectual and moral improvement, and *Christian benevolence.*" They pay, like the gentlemen, two dollars annually, which goes into the fund of the city and county Lyceum, though they have a right to make appropriations at their discretion.

Perhaps the most efficient department is that connected with the Academy, which is in a measure distinct, and still recognised by the general society. The Academy Lyceum, has already a library of more than 100 volumes, a handsome cabinet of minerals, and of plants, nearly the whole of their own collecting They have three new cases neatly arranged, viz. for books, plants and

minerals. They correspond with similar societies, or with schools, in seven different states. They have succeeded, to admiration, in the "*foliums*" I mentioned in my last.* A few days since, a little boy in the primary department, on his leaving school for a few weeks, while on a visit to the interior, presented his teacher with a beautiful collection of leaves, collected, preserved, and arranged on sheets of paper by his own hands. A great portion of the pupils are collecting their foliums, for the double, or rather treble purpose of the school cabinet, the family cabinet, and for exchange with other schools and other states. Many of the families have collections of plants, shells, minerals &c. principally collected by their younger members. One gentleman is about erecting a small building as a Lyceum for his family.

ATHENS.

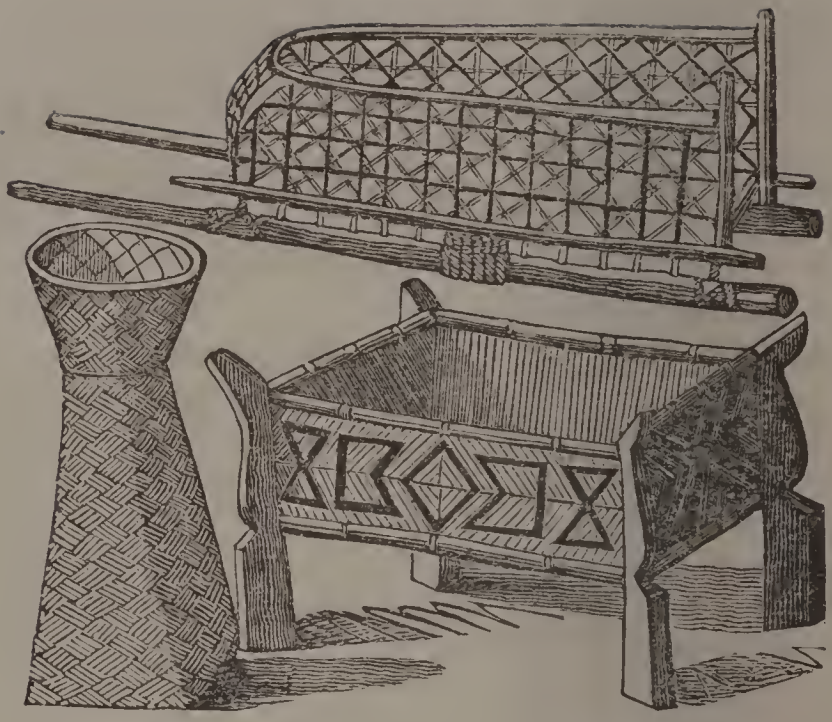
Athens is a place of uncommon interest, and of truly animating prospects. It is destined, I believe, to be one of the largest places south of the Potomac. Its geography, geology, and architecture, very strikingly remind a visiter from the north, of a New England village. The Oconee river and its branches intersect the country around, adding to the beauty of its undulatory surface, and to the richness of its fat clay soil, which the oxide of iron has dyed a deep and permanent red. Though now impoverished by unskilful management, it is easily recovered, and by several concurring causes, will soon be restored to its original fertility, and present a new prospect, both to the traveller and the cultivator. In the vicinity are exhaustless beds of iron,

* The writer here refers to collections of leaves of various kinds, to be collected, neatly arranged, and preserved.

which the manufactories already in successful operation, and others in rapid progress, aided by one railroad which is weekly carrying its hundreds of passengers and thousands of freight, must ere long bring into requisition. To me it is evident that in the manufacture of coarse and heavy goods, the factories at the north can never cope with those in the heart of a fertile and extensive cotton country, whose various resources are little understood, and less applied.

In intellectual and moral character, I am acquainted with no community which stands on more elevated ground than that of Athens. Two circumstances will give some indication to that effect. In the sabbath school, which is large, is a class of adults from forty to eighty years of age, composed of the most enlightened and pious of their citizens. Connected with the factories are schools for the children, held five nights in a week, and on Sunday. The last circumstance, at the commencement of a manufacturing enterprise which must eventually throw its influence, if not its operations, over the whole south, was to me truly delightful and animating. Suppose that the first manufacturing establishment in New England had made intellectual and moral improvement a part of its regular and daily system, who can calculate the results?

The Athens Lyceum will eventually, I think, be the centre and moving spring of the system of Lyceums and of *common education* in the state, and will effect in spirit, and in result, what the constitution of the state provides for in form; viz. a complete and connected system of operations between the University, the Academies and neighborhood schools, for the benefit of all classes and all sections of the state.



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INSTRUMENTS AND UTENSILS, IN NEW ZEALAND.

The instruments, articles of furniture, and common utensils of the inhabitants of New Zealand, like those of other nations that have made but little progress in the arts of civilized life, are in general rude, and in some instances exceedingly awkward. The specimens of their baskets, fig. 1. will perhaps surprise us most. Who would suspect they were baskets, beforehand? One of them appears more like the body of a wheelbarrow than a basket, and the other is in shape not unlike a sofa. The engravings are probably correct. They are from the Library of Entertaining Knowledge.

Their tools, (2) are as odd as their baskets. One which resembles the adze, is in most frequent use. Of the two adzes represented in the engraving, the handle of one is formed of the bone of the human arm, and the other of that of the leg. The bread pounder, formed of a large fishbone, is in very general use. There are two of them, one on the right, the other on the left. Between them is a kind of bottle, which they use.

Their use of the three instruments in figure 3, is not known. They are kept as curiosities in some of our museums.

Figure 4 represents a carving knife or saw. It has a very singular appearance, if examined minutely. We are unable to describe it more particularly.

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In his attachment to these rude instruments, the New Zealander differs from the Europeans, and Americans. The more old fashioned our tools and instruments are, the more we dread innovation. On the contrary, the farther individuals and communities have already carried innovation and improvement, the more ready they are to go farther. But the New Zealander, who as yet scarcely knows any thing about improvement, is not at all afraid of innovation. He seems quite conscious the Europeans and Americans know more about making instruments, utensils, &c. than he does. He is desirous to learn from them. He has his instruments of bone, but he comes to the white man and asks him for iron. He has his club, as a weapon of war, but he comes to us for a musket. He can carve very well in wood, and he understands the art of tattooing quite gracefully. Yet he has some sense of the value of our imitative arts, and is quite fond of our sculpture and paintings. His social habits are wholly unrefined, his cookery is coarse, his articles of furniture rude, as we have already shown, and yet he adapts himself at once to the best usages of English society, and appears quite at his ease. This is a fortunate trait in the character of nations so uncivilized, since it opens the way to their speedy and rapid mental and moral improvement and elevation.

SKETCHES OF THE CHEROKEE INDIANS.

One of the pleasantest and most profitable incidents of my life was a three weeks' ramble among the Cherokees; visiting, in the time, their native forests and mines, their missionary stations, their schools, and their private dwellings; and witnessing their agriculture, their architecture, and, in a few instances, their eloquence and their piety. Their native and rightful lands amount to about 8,000,000 acres, a considerable portion of which is broken and barren, a large portion second and third rate, and a little good land; the whole watered, like other uneven countries, with rivers, creeks, and smaller water courses — New England "brooks," and Georgia "branches."

The Cherokee forests, which cover almost the whole of their lands, in the species of trees which compose them, nearly resemble those of our own New England. Their extensive groves of pitch-pine,—"light wood,"—is their most striking difference. The Misletoe, a parasitic plant and an evergreen, whose roots pierce quite through the bark of the tree it depends upon for support, gives to the whole groves, especially of chestnuts, an appearance of verdure and life, which they do not possess, while it gradually takes from what they do possess, by checking their growth, and robbing them of their native majesty, with which their lofty heads sometimes tower in the forests, and bid defiance to the storms of a hundred winters. I wish however that parasites among men were no more numerous, and no more ignoble than those beings in the vegetable creation, which have no other than a borrowed character, or life.

I visited the Cherokee gold mines, and saw

enough to satisfy me of what I have not doubted for many years, that the richest gold mine which ever has, or ever will be discovered, lies within the reach of the ploughshare. The very centre of the gold operations suffer more from a scarcity, both of provisions and money, than any place I have seen for a long time, if not in my life; though the intellectual and moral wants are the principal source of their physical suffering.—A description of the different gold mines, with their geological relations, which are somewhat uniform, and the process or processes of collecting and refining it, time and space will not permit me to give. For it is Cherokee character, not Cherokee hills, or streams, or mines, or forests, which interested me most, as I am sure it will you.

Though myself no phrenologist, yet as my discernment is sufficient to discover whether a man is tall or short, in stature; and even to perceive the difference between a capacious and a contracted forehead, I may venture to speak of what I do know, and testify of what I have seen. I can therefore say that I have seen among the Cherokees some of the most finely formed men which have ever come to my view. Their stature is about the same as ours, though many of the females, when somewhat advanced in life, are decidedly larger than are common among whites. In their ordinary appearance and deportment they are manly and dignified; and though they feel, and feel sensibly, their grievances, they never whine. They are manly, and not regardless of self-respect, even in their complaints.

While many of them are in good circumstances, and some wealthy, owning from one to one hundred slaves, (the criterion of property through the whole

south) others, and many others have, and apparently desire, nothing beyond a mere subsistence. While a few of the best built houses in Georgia, west of Augusta, belong to the Cherokees, a large majority of their dwellings are log cabins, but poorly furnished. Even these, however, contain a wheel and a loom, whose use is seen in the gingham dresses of the females, and in the cotton and woollen clothes of the men. Some are clad in calico, but most in fabrics of their own forming. Nearly every family plant a field of corn, raise a few pigs, keep one or more ponies, somewhat larger than the Scotch pony, but smaller than our smallest horses at the north. Messrs. Elias Boudinot and John Ridge, two Cherokee chiefs whom you saw sometime since, at the north, both live in commodious houses, and, apparently, with more domestic comfort than I have often seen. Mr. R has in front of his house, more than one hundred acres of land "to be in corn" the present season, which he thinks will produce about forty bushels to the acre; the price of which, at present, (March 1834,) through most of the nation, is from seventy-five to one hundred cents a bushel. He has also an orchard of one hundred apple trees, and a greater number of peach trees.

Major Ridge, the father of John, is a fine specimen of human nature; is well formed, nas a commanding appearance, and a head constructed as strictly according to the principles of Phrenology, as that of Daniel Webster, or the late De Witt Clinton, or any other man within my knowledge. He is known both as a warrior and statesman; in addition to which he proved himself an orator in a Lyceum lecture I heard him give, through his son as an interpreter. His lecture was on the history

of his nation. His son succeeded him in an animated address, on the present state of the Cherokees. These addresses were followed by conversation on the sun, moon, and stars, the cause of day and night, the change of seasons, eclipses, their ancient customs, superstitions, &c. The Major said that the common opinion of his nation had been, that eclipses were produced by a frog, swallowing the moon.

The following facts will give you some idea of the intellectual and moral character of the Cherokees, while they are not without interest in their relation to the original nature of man, and the treatment calculated to raise that nature into a resemblance of the Creator, or to sink it still lower than it was originally.

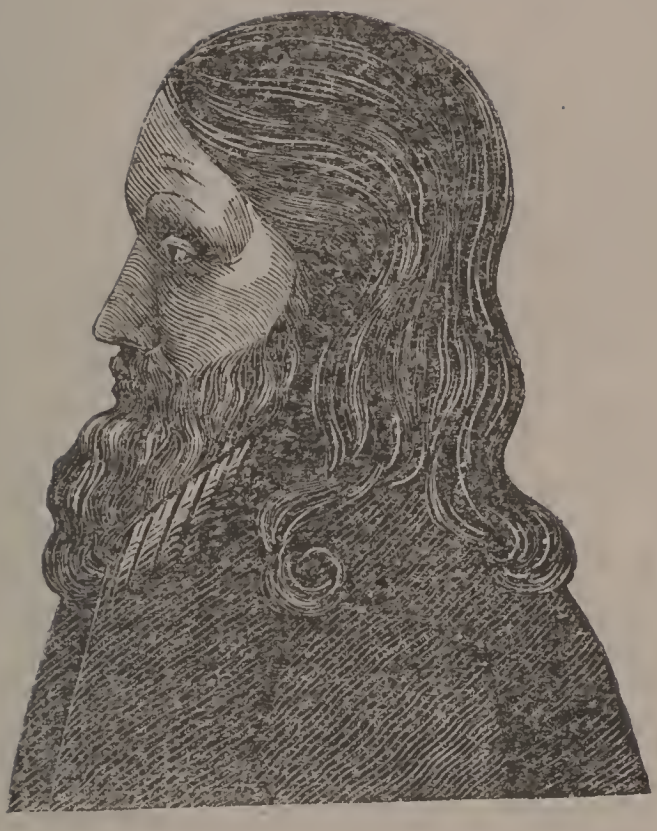
A brother of Mr. Boudinot, at the death of his mother, when four years old, could not speak a word of English. At this time, he exchanged the family of his father for that of his brother, and in three months could speak the English well, but could not answer his father (who called to see him) a question in Cherokee. That is, a boy four years old learnt one language and forgot another in three months.

Many of the adult Cherokees, some fifty or sixty years' old, have learnt to read their language without any teacher but themselves, and with no other impulse to make the attempt, but what originated in their own minds. Children who have an English father and a Cherokee mother, in almost every instance, learn the language of the former first; but at the age of three years, they can generally speak both languages. The wives of Boudinot and Ridge, who were northern women, have four or five uncommonly fine children each, and they are better

behaved than I have often seen children in Connecticut or Massachusetts. Little William Boudinot, four years old, reads well in the Testament, and is otherwise well instructed. The two older children, who are girls, know much about geography, and something about numbers. Little Sarah B., who is two years old, and can talk but imperfectly, was told by her mother to say *water*, instead of which she said *omour*, the same thing, though expressed in Cherokee. Ridge's oldest son, who is six or seven, is a fine scholar, and a great reader. Parley's Magazine is one of his most intimate friends; and to Mr. Parley he sent his highest respects, which I am sure were sincere.

The Cherokee children in the school at Brainard, are more forward than the members of any school I have seen in New England, who have attended no longer time. Those who have attended two years, can read, write, and spell well. They are also familiar with the elements of arithmetic, geography, and grammar, and show great skill and taste in writing composition, for children of their age.

Many—and the missionaries think *most*—of the pupils who make so good progress when at school, when they go to their relatives, often become intemperate, and perhaps use their knowledge, acquired at school, for evil rather than good. This circumstance, with many others, and the opinion of the missionaries themselves, confirms a belief I have long entertained, that the boards of missions have made a mistake in not connecting a system of itineracy with their permanent local establishments. By manual labor schools, and neighborhood lyceums, to be visited by itinerating teachers, all our native Indians, and I believe all the tribes of Africans, could be civilized and christianized in one generation, or in half a century.



LORENZO DOW.

Dow's early life—Feeble health and physical suffering—Extraordinary labors—Domestic condition—His death.

Much has been said of this eccentric individual; and much, perhaps, which is untrue. Many have believed, and not, perhaps, without reason, that he labored under a degree of mental hallucination. There is, however, an undue propensity in mankind to overrate or exaggerate, when their attention becomes fixed on the peculiarities or circumstances of an individual:—no matter whether

it be by his wealth, his talents, his virtues, his vices, or his *eccentricities.**

Lorenzo Dow was born in Coventry, in Connecticut, Oct. 16th, 1777. Besides enjoying the advantages of a good common school education, his parents brought him up religiously. He was constitutionally inclined to gravity and sobriety, for at the early age of three or four years, he refused to join in the sports of boys of the same age. At eight years of age he had the misfortune to be associated with a lad who spoke falsely and used profane language, which very much changed his whole character. But the serious turn which nature and parental effort gave him, was never wholly lost, for so acute was his sensibility to suffering, and so sus-

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* To prevent mistake in regard to our meaning, we would just observe that by "mental hallucination," we do not by any means intend that degree of aberration which is usually called insanity. For though the term *Crazy Dow* was, at one period, very generally applied, we do not believe he was *insane*, in the popular sense of that term. We believe that many good men, of more than one profession too, pursue a favorite subject of reflection so long, so exclusively, and with such intensity, that the proper balance of the mind, and indeed of the whole system, is destroyed; and they do, and say, and publish things that in a state of strict health of *body*, *mind*, and *heart*, they would avoid. Those who set themselves up as reformers, are especially exposed to this danger. We believe, moreover, that as civilization progresses, and communities as well as individuals, are thrown more and more into an artificial, and in some respects an unnatural state, and labor becomes still more divided, these cases of mental hallucination will be multiplied. This will, at least, be the result, so long as man is trained a one-sided being—a monster—and the whole of our attention is directed to the intellect, to the neglect of the moral and physical nature.

Nothing appears plainer than that, while Dow's mind was kept, from his early years, in the most intense activity, his physical frame was either abused or grossly neglected. And did our limits permit, we could relate more than one anecdote, which, in our own view, would show, conclusively, that whatever may have been the cause, Dow's mind was hallucinated.

ceptible the feelings of his heart, that he never could witness the death of the meanest animal without emotion; and happening to kill a bird one day, it struck him with horror. It was not, however, till the age of thirteen or fourteen years, that he wholly lost the vicious habits he had borrowed from his companion, and became settled in a moral and religious course of life; nor was it until, in a state of despair, he had in one instance loaded his gun to take his own life.

There is reason to believe that his physical frame was never robust, though nothing is said on this point by himself in his "Journal," till he had arrived at the age of twelve years. At that time he states that a confirmed asthma was fastened upon him by drinking freely of cold milk and water while greatly heated at labor; from which he never appears to have entirely recovered. From his eighteenth to his twentieth year he was often obliged to sit up whole nights "for want of breath." At twenty-three and at thirty years of age his sufferings are again mentioned. In the latter instance (it was while in Europe), the attacks were accompanied with spasms, which, to use his own language, "shook his constitution to the centre." As late as the year 1815, he passed many sleepless nights; indeed he was not wholly free from his complaint to the year of his death.

Nor was his constitutional infirmity all. Severe labors and exposure often induced fevers and other acute diseases, which brought him to the very borders of the grave. He also suffered constantly, for much of his life, either from scrofulous tumors, internal and deep seated abscesses, or hemorrhoidal affections. Yet he almost always called himself "well," and though he underwent enough, one

would think, to break down any ordinary constitution, he only complained of ill health when he experienced positive pain; and in spite of all his disease both acute and chronic, he performed an amount of labor, in travelling and preaching, unknown since the days of Whitfield, if not to the world.

Before he had completed his twenty-fifth year, he once rode fifteen hundred miles and held one hundred and eighty-four meetings, of two to three hours each, in ten weeks and two days. About a year afterward, he travelled in the southern states, four thousand miles, besides constantly preaching, in seven months, and finished his tour without stockings, shoes, or outer garment, and almost without a horse. It 1805, he supposes he travelled about ten thousand miles. For many years, about this period of his life, he states that he travelled from seven to ten thousand miles, and held from six to seven hundred meetings annually. Sometimes, too, he spoke in the open air, and addressed many thousands. In England, he once held nine meetings and travelled fifty miles in fifty-two hours, and in another instance, he held two hundred meetings, and travelled one thousand seven hundred miles in sixty-seven days.

He travelled through the United States from New England to the extremities of the Union,—Georgia, Florida, or Missouri—at least from fifteen to twenty times. Occasionally he went also to Canada, and once to the West Indies. He made three voyages to England and Ireland; twice, at least, for the improvement of his health. During these foreign excursions, he travelled over much of England and Ireland, drawing after him, everywhere, thousands of people, and riveting their

attention by his peculiarities of person, manner, language and dress. It is thought, and not without reason, that during the thirty-eight years of his public life, he must have travelled nearly two hundred thousand miles.

It was customary with Dow to send out, sometime before hand, a series of appointments to preach, often in a distant state; and he seldom, if ever, failed of being present, precisely at the day and hour and place appointed. Often three or four appointments were made for a single day; it is believed sometimes more. Besides, they were not unfrequently so distant from each other, that he had barely time to go through with the exercises, and then fly to the next town. We say *fly*, for we have known him travel, on these occasions, with such rapidity, that the fleetest and freshest horses had enough to do to keep pace with him; and this, too, over the roughest roads, and through marshes and streams. And what may be regarded more astonishing still, notwithstanding incessant toil and the constant exercise of his lungs—weakened by protracted disease—he stated in 1833, that his health, though not very firm, was much better than twenty or twenty-five years before. But for the last twelve years of his life he travelled much less than formerly.

In addition to his labors in travelling and preaching, he wrote several volumes, among which is his "Journal," or Life, which, including miscellaneous pieces, amounts to seven hundred pages or more. The titles of his books were usually as eccentric as their author. One, for example, as nearly as can be recollected was, "How to Lie, Cheat, and Kill, according to law." Another, "The Chain of Reason with five Links, two Hooks, and a Swivel"

Lorenzo Dow was twice married. There are many singular stories in circulation, in regard to his manner of selecting a companion, but they cannot, we think, be fully relied on. His first wife, Peggy, (who also wrote a history of her own life) whom he married at Western, in the state of New York, died in Sept. 1819. By this marriage he had one child, but it died early. He was married the second time in Montville, Conn. This lady survives him. He ended his career at Georgetown, (D. C.) Feb. 2d, 1834, in the 57th year of his age.

[This account of Lorenzo Dow has been chiefly collected from his "Journal," written by himself, and from the statements of his intimate friends. During the last fifteen years, we have also known him ourselves but, not intimately.]

His character—as a preacher—a writer—a relative—a citizen. His disinterestedness—Quackery—Reflections.

Dow believed himself called to preach the Gospel, at a very early age. Some of his friends opposed his wishes; but this, as usually happens in such cases, only confirmed him in his purpose.

At first he was connected with the Methodists, but he was excluded from the New York Conference, about the year 1804. Through life, however, he retained many of the views and peculiarities of that highly respectable sect of Christians.

One prominent object, in all his preaching, was to oppose certain religious doctrines which he believed to be fundamentally erroneous, and tending indirectly to skepticism. It was probably his feelings on these points, in no small degree, that impelled him onward, and carried him through much toil, sacrifice, and suffering.

His style of preaching—manner, gesture, &c. were peculiarly his own. His long hair, flowing beard, singular dress, and shrugs of the shoulders, presented altogether a most singular appearance. His witty, coarse, and sometimes offensive expressions, while they procured him hearers, and sometimes friends, did not fail to create many enemies. Towards those who had, as he supposed, wantonly injured him or the cause of truth, his language was sometimes very severe. He was once prosecuted in Charleston, S. C. for a libel; and convicted.

Dow was a close thinker, and a shrewd observer of men and manners. Before he was five years old, he says he pressed his parents with questions which they found it difficult to answer. His shrewdness, his thorough knowledge of human nature, joined to much native wit, not only enabled him to take the moral and intellectual dimensions of an audience, while preaching, but to preserve the most silent and respectful attention. Even those witticisms and vulgarities, which from the mouths of most men would have provoked disgust or opposition, were rarely, if ever, so timed as to turn the current of the public feeling against him.

There was much that was excellent, in his preaching, especially to the young; but we believe, too, that not a few of his remarks were so calculated as to produce mischief. His *censures*, both in his discourses and writings, were far from manifesting a proper spirit; and, viewed as insulated actions, might lead to doubts of his piety. Yet we confidently believe that his general intentions were excellent. We feel strongly inclined to impute to error of judgment, strong feeling, and a degree of hallucination, what seems to accord so ill with the temper and character of a Christian ambassador.

That he was really hallucinated, those who have seen and heard him, and read his *writings*, will not probably entertain a doubt. The character of the latter, though in some respects excellent, at least portions of them, is such that it is difficult to conceive how a follower of Christ, in the possession of a sound mind, could suffer them to pass through several editions without explanation or apology.

Except to those who persecuted him or maintained religious sentiments which were abhorent to his feelings, his language and deportment were mild and decorous. In all the relations of life, and among his neighbors and acquaintance, he was affectionate and friendly. As a citizen, he was never wanting in public spirit, patriotism or philanthropy. In conversation he was agreeable, and social. In some respects, he seemed a little credulous; and he had great confidence in dreams. In early life he dreamed that he must preach,— must go to Europe, &c. If absent friends were sick, he was very apt to think himself warned of it in dreams. —In his habits of eating and drinking, he was like other men, though always remarkably temperate.

We have already more than intimated that his motives to action were pure and disinterested. No man seems to have had a more thorough contempt than he, of two of the world's three idols, *wealth* and *pleasure*. In regard to his *love of fame* we cannot speak. As an evidence that he was free from the love of money, we may mention the fact that he always refused donations and contributions, when not indispensable for the supply of immediate wants. It is believed that during the first eighteen years of his public life, he did not receive enough for his labors, and for his books, to defray more than half his travelling expenses; except, as he says

that when impelled by hunger, he was in the habit of "riding up to a house now and then, and asking for a bit of bread." Previous to his last journey to Europe, in 1818, he seems to have been peculiarly unfortunate with his books. In one instance he says, he "sunk on them $1000." But for the last fifteen years he is believed to have derived some benefit from them. During much of his life he was in the practice of carrying his various books for sale along with him; and within a few years — we regret to say it,— he has been a maker and vender of patent medicine, and it is said has found it a source of profit. Almost every one has heard of Lorenzo Dow's Family Medicine.

But we must close the account of this eccentric, erring, but interesting man. His life, though short, was eventful, and may be made instructive. So great an amount of effort, by a single individual, is not made once in an age. How much might the friends of human improvement and happiness accomplish, in behalf of their race, if each in his calling and sphere, would manifest, through life, the zeal, the activity, the self denial, and the perseverance of Lorenzo Dow!

EDUCATION IN THE UNITED STATES.

Our boasting—Its foundation—Uninstructed children, 1,250,000—Freemen, who cannot read, 500,000—Their annual increase, 12,500—In Prussia, an absolute monarchy, all can read.

Perhaps no people on earth boast more of their fine country, good laws, good institutions, and, among the rest, their *good schools*, than the people of the United States. Education, especially common education, is as it were our watchword. We have our *excellent systems*; our *noble funds*, our

host of improved schoolbooks, and improved methods of instruction; our *army of teachers;* our millions of the young, whom we are training up in the infant, the district, the high, and the sabbath school, to knowledge and to usefulness, to virtue and to piety. We are raising up a generation to perpetuate our free government and its excellent institutions! — At least, we say all this; and we probably believe it. Perhaps it would be difficult to insult a man in any way more readily, than by telling him that he does not duly appreciate the importance — to his children, and indeed to the whole republic,—of a good education.

But let us examine our claims to this pre-eminent regard and attention to education. Here then, we are; a free people, of about 16,000,000; and among us the following numbers of children, of a suitable age to attend school, who are destitute of the means of instruction.

Pennsylvania, 250,000; Tennessee, 160,000; Kentucky, 103,337; Indiana,22,000; Illinois, about 20,000; New Jersey, 11, 573; New York, 50,000; Rhode Island, 4,403; Maryland, Virginia, North and South Carolina, and Ohio, 462,000; and the other western states and territories, 150,000. The number, in other states of New England, except Rhode Island, is unknown. In Connecticut and Massachusetts it is small; in some of the others more considerable. We ought also to add that instead of 50,000 in New York, some place the number at 80,000.

Here then we have about a million and a quarter of children (the Annals of Education thinks 1,400,000) between the ages of about five and fifteen, or one tenth of our whole population, destitute of instruction; and all this, too, in spite of our improved systems, books, teachers, &c.

But again. A joint Committee of the Pennsylvania Legislature have recently reported that there are, in that state, 100,000 *voters* who cannot read; and that the annual increase of this class, is 2,500. In Indiana, 18,000 adults cannot read; in New Jersey 1,500. Connecticut even, has a few of this class, though the number is small; and there are some in every state in the Union. If the proportion of *voters* in the other U. States who cannot read, bears the same proportion to that of Pennsylvania as the number of their uninstructed children does, the whole number of this class of freemen is half a million; and the average annual increase, 12,500.*

Let the reader think of this a moment, while we compare our country with one of the monarchies—absolute ones, too,—of the old world.

Prussia, at her last census, had a population equal, or nearly equal to ours. Of these, 2,043,030 were between the ages of seven and fourteen years; the age at which the law requires them to attend school. The number in actual attendance in 1831, was 2,021,421; leaving a balance of only 21,609 *not* in attendance. And even this number, it is confidently stated, is barely sufficient to account for the children of the higher ranks educated at home, those attending private schools, and the boys, under fourteen, attending classical schools.†

The truth is, that although the custom of the country does not require them to enter school till seven years of age, yet when they have reached that age, *parents are obliged to send them.* And

* We derive our information, partly from official reports on the subject, themselves; and partly from recent statements and estimates in the American Annals of Education.

† See the Annals of Education, Vol. III. Also the Edinburgh Review, for Oct. 1833, republished in the United States.

lest there should be an evasion of the law, in the case of poor children bound out apprentices, their masters are obliged to prove that every apprentice either has received, or is then receiving, the benefits of public or private instruction. Besides, the clergy are enjoined to admit none to the communion, that have not gone through the ordinary course of school discipline.—And as the consequence of all this—rigorous as it may be—a glorious result is obtained. Prussia has no uninstructed children, and of course no ignorant adults; or if she has now, she cannot have in the next generation. She knows nothing except by report, of a *million and a quarter of uneducated children, and half a million of adults who cannot read* — in a population no larger than her own.

We are sorry, to have it in our power to make a comparison so disadvantageous to ourselves. More than this, we are ashamed, positively ashamed, of the nation to which we belong. Two millions, or almost two millions of a people calling themselves *free*, *enlightened*, and *Christian*, who cannot read and write! It is too much, positively too much. Is there no remedy without first curing us of self-conceit? We believe not; and therefore we have made the comparison, disgraceful as it is to our republic.

BREAD.—AN EXTRACT.

[From "Tryon's Way to Health," an old book published in London in 1691.]

If you set any value on Health, and have a mind to preserve Nature, you must not separate the *Finest* from the *Coarsest* Flour, because that

which is *Fine* is naturally of an obstructive and stopping quality: But on the contrary, the other which is *Coarse*, is of a *Cleansing* and *Opening* Nature; therefore that *Bread* is best which is made of *both* together; for in the inward *Bran* and *Skin* of the Wheat, is contained a Quality which is of a sweet friendly Nature, by reason whereof, the Bread which is made of fine and coarse together, will not only be sweeter, and keep longer moist, but is also more wholesome and easier of digestion, gently loosening the bowels—it will *strengthen* also more than the other Bread, made of fine bolted flour. It must be confessed that the Nutrimentive Quality is contained in the fine flour; yet in the bran is contained the *opening* and *digestive* Quality, and there is as great necessity of the one, as the other, for the support of Health—for when the *Finest* Flour is separated from the coarsest and branny parts, neither the one nor the other have the true operations of the Flour of *Wheat*.

By what has been said, we may gather that the eating of *fine Bread* is inimical to Health, and contrary both to Nature and Reason, and was first invented to gratifie Wanton and Luxurious Persons, who are *ignorant* both of themselves, and the true Vertue and Efficacy of natural things.

FALSEHOOD.

In Turkey, whenever a storekeeper is convicted of falsehood, his house is painted black, to remain for one month. If this rule were observed in this country, every city and town would have a most sombre appearance, and proclaim in a most affecting manner, the mournful fact, that our country is sadly destitute of one grand branch of the Christian temper,—that of integrity and sincerity of heart, notwithstanding the superior light and advantages which it enjoys!

Anecdotes of Blind Persons.—A French lady, who lost her sight at two years old, was possessed of many talents which alleviated her misfortune. "In writing to her," it is said, "no ink is used, but the letters are pricked down on the paper; and, by the delicacy of her touch, feeling each letter, she follows them successively, and reads every word with her fingers' ends. She herself in writing makes use of a pencil, as she could not know when her pen was dry: her guide on the paper is a small thin ruler, and of the breadth of her writing. On finishing a letter, she wets it, so as to fix the traces of her pencil, that they are not obscured or effaced; then proceeds to fold and seal it, and write the direction, all by her own address, and without the assistance of any other person. Her writing is very straight, well cut, and the spelling no less correct. To reach this singular mechanism, the indefatigable cares of her affectionate mother were long employed, who, accustoming her daughter to feel letters cut in cards of pasteboard, brought her to distinguish an A from a B, and thus the whole alphabet, and afterwards to spell words; then, by the remembrance of the shape of letters, to delineate them on paper; and lastly, to arrange them so as to form words and sentences. She sews and hems perfectly well, and in all her works she threads the needle for herself, however small."

We have a very remarkable instance in John Metcalf, of Manchester, who very lately followed the occupation of conducting strangers through intricate roads during the night, or when the tracts were covered with snow. And, strange as this may appear to those who can see, the employment of this man was afterwards that of a projector and surveyor of highways in difficult and mountainous parts! With the assistance only of a long staff, he has been several times seen traversing the roads, ascending precipices, exploring valleys, and investigating their several extents, forms, and situation, so as to answer his designs in the best manner. Most of the roads over the Peak in Derbyshire have been altered by his directions, particularly those in the vicinity of Buxton; and he has since constructed a new one between Wilmslow and Congleton, with a view to open a communication to the great London road, without being obliged to pass over the mountains.

WHAT WILL EDUCATE?

Maxims have comparatively little influence—What *will* and *does* educate—Influence of circumstances.

In the laudable anxiety of their hearts, two parents, with a family of infants playing around their feet, are heard to say; "Oh! what will, what can best educate these dear children?"

I reply; look to *yourselves*, and your *circumstances*. Maxims and documents are good in themselves, and especially good for the regulation of *your* conduct, and *your* behaviour towards *them*. But with regard to your children, you have yet often to remark, that *many* maxims are good, precisely till they are tried, or applied, and no longer. In the hands of many parents, they will teach the children to *talk*, but very often, little more.

I do not mean to assert that sentiments inculcated have no influence; far from it. They have *much*, though not the *most:* but still, after all, it is the sentiments you let drop occasionally, it is the conversation they overhear, when playing in the corner of the room, which has more effect than many things which are addressed to them directly in the tone of exhortation. Besides, as to maxims, ever remember that between those which you bring forward for their use, and those by which you direct your own conduct, children have almost an intuitive discernment; and it is by the latter they will be mainly governed, both during childhood, and their future existence.

The question, however, returns; what *will* educate these children?—Your example will educate them—your conversation with your friends—the business they see you transact—the likings and dislikings you express—*these* will educate them. The society you live in *will* educate them,—your

domestics *will* educate them — and, whatever be your rank or situation in life, your house, your table, and your daily behavior, *will* educate them. To withdraw these from the unceasing and potent influence of these things, is impossible; except you were to withdraw yourself from them also.

Some parents talk of *beginning* the education of their children!—The moment they were capable of forming an idea, their education was already begun —the education of circumstances—*insensible education*, which, like insensible perspiration, is of more constant and powerful effect, and of far more consequence to the habit, than that which is direct and apparent. This education goes on at every instant of time; it goes on *like* time; you can neither stop it, nor turn its course. Whatever these have a *tendency* to make your children, that, in a great degree, they will be.

SONG IN CAPTIVITY.

BY MRS. HEMANS.

Where are the vintage songs
  Wandering in glee?
Where dance the peasant-bands
  Joyous and free?
Under a kind blue sky,
Where doth my birth-place lie?
  —Far o'er the sea!

Where, floats the myrtle-scent
  O'er vale and lea,
When evening calls the dove
  Homewards to flee?
Where doth the orange gleam
Soft on my native stream?
  —Far o'er the sea!

THE SAILING MATCH,—Page 189.

Where are sweet eyes of love
  Watching for me?
Where, o'er the cabin roof,
  Waves the green tree?
Where speaks the vesper-chime
Still of a holy time?
  —Far o'er the sea!

Dance on ye vintage-bands,
  Fearless and free!
Still fresh and greenly wave,
  My fathers tree!
Still smile, ye kind blue skies!
Though your son pines, and dies,
  Far o'er the sea!

SAILING MATCHES.

Among the more fashionable sports of London are the Sailing Matches, on the river Thames. These sports have been practised, with undimin ished interest, for more than fifty years.

The prize at the Sailing Matches usually consists of a Silver Cup, worth from 20 to £75; but sometimes it is only a sum of money. This prize is offered by some distinguished gentleman, or association of gentlemen; for this sport is exceedingly popular.

The number of boats engaged, varies from two to twenty-four; but there are generally about six. They are selected from the best yachts or sail boats on the river; though some are built wholly for this purpose. The Duke of Buckingham has one, which, it is said, cost him £16,000. It carries

twelve brass guns, and a full complement of seamen and marines, with a chaplain, doctor, &c.

They set out at about eleven or twelve o'clock in the forenoon, and after going a certain prescribed distance, return before evening. Thus the race or match takes up from three to six hours; generally about three or four. The scene, especially the starting, is witnessed by an immense throng of spectators. The windows and house tops, all along the river, are crowded with females, in their best attire, and the wharves and piers with the other sex. The vessels lying in the neighborhood, are often displayed in such a manner as to show the interest they take in the excursion. Other boats, sometimes in great numbers, either attend the competitors, during the journey; or set out with them, and proceed a little distance, and then return.

So anxious are many to fill up a few hours of leisure in this manner, and so popular at certain seasons is this species of amusement, that there are gentlemen, in the highest ranks of life, who not merely *engage* in the contests, but actually train themselves to all the mysteries of managing a sail or row-boat; and although they would think it *beneath their dignity* to lift a finger in any useful employment, they can, on these occasions, "take a lead in a cutter, handle a *skull*, *feather* an oar, do their duty in the *midships*, or show themselves off to advantage by acting like a waterman, at the *bow*."

Sometimes a boat, on the very point of winning a prize, by some unlucky accident drops a man overboard, and by "heaving to" in order to save him, loses the victory. But in looking over an account of these races, we have been happy to find that eager as they are for the honor of gaining the

prize, they never, in these circumstances, suffer their excited feelings to overpower their sense of the duties they owe to a fellow creature. They prefer to lose the *prize*, rather than the *man*.

Whatever may be said of sports in general, especially those which are attended by great expense, we cannot but regard sailing matches as comparatively innocent. There are no faithful domestic animals to be crippled or spoiled; no cruel tearing of one another's flesh for an inhuman crowd to gaze at; no eyes or limbs or lives lost. And we do not learn that assemblages of spectators, brought together to witness these sports, are in the habit of indulging themselves in excess. Indeed, we have seldom read of scenes of amusement in a great city, which have seemed to us so free from improprieties of conduct as these sailing matches.

There are those among us who condemn all sorts of amusements, at once. There are parents, who grudge every moment, and if we may so say, *every ounce of strength* that is expended, even by their children, on that which they suppose is useless. The error in this case consists in mistaking as to what is, and what is not, *really useful*. Convince a parent that sports are as really necessary to the well being of his child, as his food or his sleep, and make the conviction permanent, and he will gradually cease to regard every moment, not devoted to what he has been accustomed to think productive employment, as *wasted*.

But herein is the great difficulty—to establish this permanent conviction, and induce the parent to consult the child's welfare in his amusements, as well as in every other condition of his life. Parents and teachers have greatly erred, in standing aloof from the sports of children, and seeming to

grudge the moments they occupied. This has defeated almost every valuable purpose for which sports were intended. It has attached them to those sports in an inordinate degree; for the maxim that "stolen waters are sweet," applies with full force to enjoyments of the kind in question, when secured by stealth. It has produced a disrelish for useful employment; and no wonder if it has alienated the feelings of the child, and predisposed him to regard the parent, as seeking *his own* happiness, far less than the convenience or emolument of his child. And wo to the parent,—we might say farewell to his social happiness—when his children come to regard him in the light here presented; when they believe him willing to let any mere earthly prospects to himself, interfere with their happiness!

As to the importance of sports to adults, we believe it depends very much on the nature of their employment. When this subjects them to confinement to a sitting or standing position for hours together, perhaps for the whole day; or where their avocation is pursued in apartments which cannot be well ventilated, we deem some active amusement as indispensable as daily food. We say *amusement* rather than *employment*, for we do not believe a mere change of employment for half an hour or an hour in a day, while the muscular system has been almost inactive for ten or twelve hours, to be sufficient. There must be high, vigorous, though not *violent* motion; there must be the employment of the greatest possible number of muscles, and the agitation or stirring up of the greatest number of the internal organs of the body. All these last perform their functions with much more ease, and fulfil with much more fidelity

the intentions of their Author, when they are submitted to a gentle agitation for twelve or fifteen hours out of twenty four, than where they are confined to cages and stone walls; or what is nearly the same thing, to cavities which are equally immovable. We should have said that the active amusements of which we have been speaking, ought by all means to be conducted in the open air.

In regard to that portion of the community whose daily employments bring all parts of the system, successively, into gentle, regular action, it cannot be said that active sports, as such, are necessary. A change of employment may—even to them—be often highly useful. But it not unfrequently happens that the physical welfare, as well as the mental and moral happiness of such persons, would be promoted in the greatest possible degree by reading or conversation in the social circle, or around the domestic fireside.

HINTS ON SELF EDUCATION.

False Economy—Sixty minutes in an hour.—Value of order.

False Economy. There is a false as well as a true economy. I have seen an individual who, with a view to economy, was in the habit of splitting his wafers. Sometimes a thick wafer can be split into two, which will answer a very good purpose; but at others, both parts fall to pieces. Let the success be ever so complete, however, all who reflect for a moment on the value of time, must see it to be a losing process.

I knew a laboring man who would hire a horse, and spend the greater part of the day in going six or eight miles and purchasing half a dozen bushels

of grain, at sixpence less a bushel than he must have given, near home. Thus to gain fifty cents, he subjected himself to an expense, in time and money, of one hundred and fifty. These are very common examples of false economy; and of that 'withholding' which the Scripture says 'tends to poverty.'

Sixty minutes in an hour. Though every young man of common sense knows that an hour is *sixty minutes*, very few seem to know that sixty minutes make an hour. On this account many waste fragments of time,—of one, two, three or five minutes each,—without hesitation, and apparently without regret;—never thinking that fifteen or twenty such fragments are equal to a full hour. 'Take care of the pence, the pounds will take care of themselves,' is not more true, than that hours will take care of themselves, if you will only secure the minutes.

Value of Order. Going into a shop, the other day, where a large number of persons were employed, I observed the following motto, in large letters, pasted on the side of the room; 'Put every thing in its proper place.' I found the owner of the shop to be a man of order and economy.

An old gentleman of my acquaintance, who always had a place for every thing, made it a rule, if any thing was out of its place, and none of his children could find it, to blame the whole of them. This was an unreasonable measure, but produced its intended effect. His whole family follow his example; they have a place for every thing, and they put every thing in its place.

NEW HAVEN, IN CONNECTICUT.

New Haven was first settled by the English in 1638, eight years after the landing at Plymouth. The Indian name was *Quinnipic*. It is pleasantly situated around the head of a small bay that sets up about four miles from Long Island Sound, and is one of the most healthy places in America. It is 76 miles northeastward from New York, and 134 southwestward from Boston. Its population, in 1830, was 10,678; but a recent census which has been taken, makes it, we understand, about 12,000. The population has never increased rapidly. The greatest increase at any one period, has probably been during the last ten years. This has been owing, in part, to the cutting of a canal from that place to Northampton, and along the valley of the Connecticut to Vermont.

The soil around New Haven is naturally poor, but art and industry have rendered much of it very productive. The city is laid out, on a large plain, and is three miles long from east to west, and two wide. It is divided into the old and the new town. Each division has in it a great central square or common. That of the old town is intersected by a beautiful street, overspread by elms, and having on it several public buildings. The streets all intersect each other at right angles. Two small rivers bound the city, one on the east, and the other on the west. Beyond these are two high bluffs, the terminations of two separate ranges of mountains One on the northeast, is called East Rock, and is celebrated for having been the residence, many years, of a hermit. West Rock, on the northwest, is not so high, but is very conspicuous in President Stiles' History of three of the Judges of Charles I

Here, for some time, Goffe and Whalley used to secrete themselves.

The buildings of New Haven, though chiefly of wood, are generally handsome, especially the public buildings. These are the State House, a very beautiful building, standing on the central square or common, and built on the model of the Parthenon at Athens; three churches for the Congregationalists, two beautiful Gothic edifices for Episcopalians, one church for Baptists, and one for Methodists. There are also a jail, an alms house, a custom house, a hospital, a museum, several banks, two insurance offices, an institution for popular lectures, and six or eight printing offices, from which are issued as many weekly papers, besides three other periodicals.

The public squares and principal streets are finely ornamented with trees, and a large proportion of the houses have gardens, some of them large, and filled with fruit trees. This gives the place a delightful and rural appearance, combining the advantages of the city and country; and probably contributing to render it healthy.

A beautiful view of this city has been taken from the southwest, and engraved. On your left are the college buildings; and before you is the splendid new State House. New Haven is distinguished for its literary institutions, especially its College. Yale College was incorporated in 1701, and was first located at Killingworth, but was removed to Saybrook in the year 1707, and to New Haven in 1716. The fathers of New England, when they first came to this country, manifested a wise and liberal regard to the education, especially the common education, of their children. Nor were they unmindful to provide colleges for those who were

destined to the several "professions" as they are called. It was their intention to have a college in every colony. But after the establishment of that at Cambridge, it was for some time after thought inexpedient to establish any more, lest they might interfere with it. So the other colonies, Connecticut, New Haven, &c. sent their sons to Cambridge. But even before the colony of New Haven had any youth to send, they were accustomed to contribute every year for the support of "poor scholars at the College of Cambridge;" for we find from their records that between the years 1644 and 1648, many of the citizens contributed "a peck of wheat or the value of it," annually for this purpose; and in the year 1645, the contribution amounted to forty bushels.

There are ten college buildings. You see a part of them on the left hand side of the engraving, as before mentioned. They consist of four halls, 100 feet by 40, and four stories high, containing thirty-two rooms for students; a new and convenient chapel, one story of which is appropriated to the theological school, and another to the college library; two other buildings, containing rooms for recitations, lectures, and libraries; a dining hall of stone, with an elegant apartment above, for the mineralogical cabinet and lectures; a chemical laboratory; and the medical college, a large stone edifice. The college library contains 8,500 volumes, and the students' libraries 10,500. The philosophical and chemical apparatus are very good. The cabinet of minerals is the most valuable in the United States, containing above 16,000 specimens.

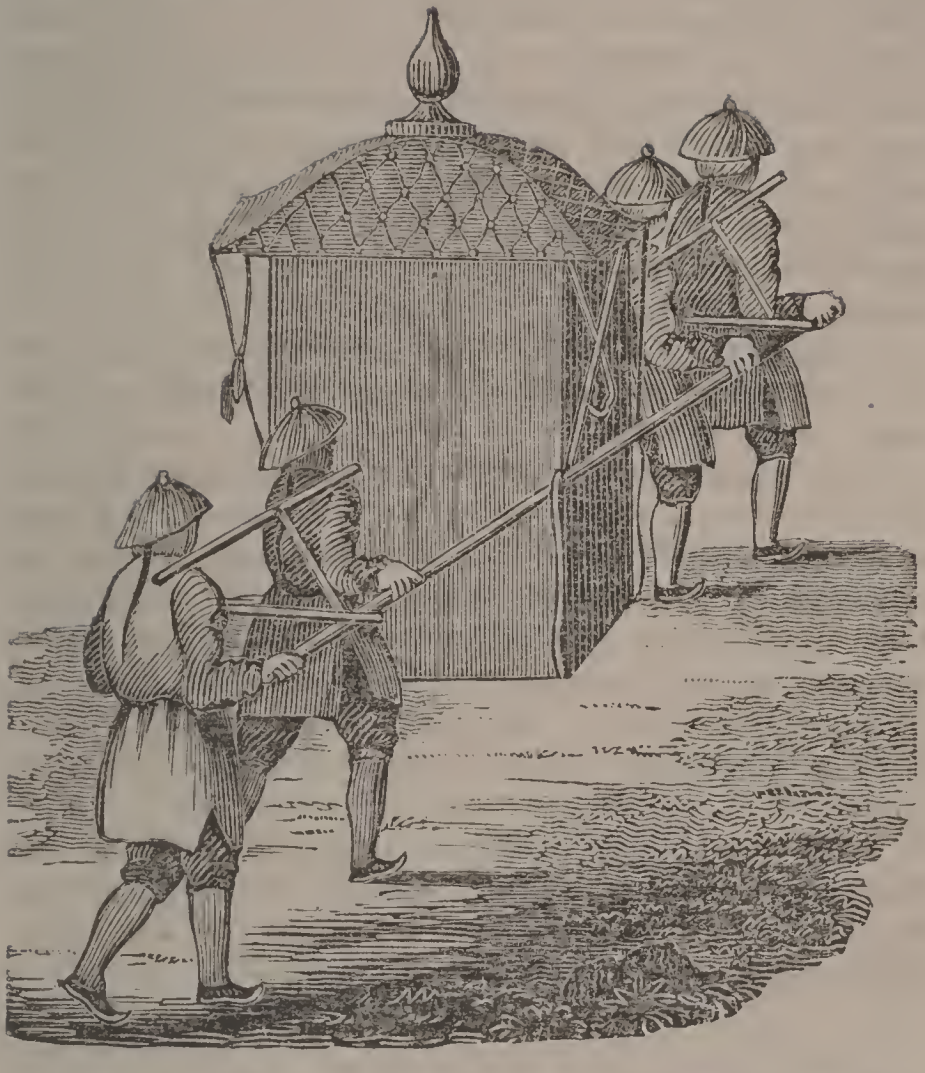
The number of students in this institution has, for some time past, been greater than in any other college in the United States. The whole number

which has ever graduated there is 4,609. This, however, does not include the class of 1833. There are sixteen professors, but six of them are employed in the Medical school, two in a Theological school, which is also connected with the college, and two others in a Law school, of the same description. This college has produced a large number of eminent men, who have filled stations of great importance, not only in that, but in other states.

New Haven is also celebrated for the number of its boarding schools, and smaller seminaries, for the young, of both sexes. The average number of persons who are here from abroad for the purpose of education, is supposed to be about 1,000. They are from all parts of the United States, and not a few from other countries, especially the West Indies. One thing which has given New Haven so much reputation, in this respect, is the general correctness of its morals. There are few, if any, places in the United States, where the Sabbath is so scrupulously regarded.

This city has never been distinguished for its manufactures, but rather as a place of education and of trade. The latter is principally with the other states and with the West Indies.

The Globe a Shell!—A Leipzig professor has published a work, in which he proves that the earth is hollow, the entrance to it in Poland, and that within there are fire, water, air, amphibious animals, fish, insects, birds, quadrupeds, and men; and he even describes the details of the subterranean life they lead!



SEDAN CHAIR OF THE CHINESE PRIME MINISTER.

The engraving represents the mode of travelling adopted by the prime minister of China, in a sedan chair, or palanquin. His sedan chair is covered with green cloth; but ministers and grandees alone are allowed to use cloth of this color. They sometimes use carriages also, like those of private per-

sons, except that they are closed in front, and that the wheels are placed behind to make the jolting of the carriage less uneasy.

When Lord Macartney, and the rest of the British Embassy to China, first landed on the Chinese territory, a sufficient number of sedan chairs were assigned for the whole retinue. Even the private soldiers were carried in this manner. It is said, however, that the soldiers did not at all like this mode of conveyance, and that at length they got out, and prevailed upon the Chinese bearers to take their places in the inside, and carried *them* in their turn.

The manner in which the private carriages above mentioned are constructed, appears to be kept a secret. Lord Macartney was instructed, privately, to endeavor to learn at Pekin, the manner in which they are so hung as not to jolt; but we do not know whether he succeeded.

He had, however, a superb berlin for his own use, and he presented the emperor with a magnificent chariot constructed on the same plan. The Chinese, who cannot bear anything like innovation, showed a most invincible dislike to this sort of carriage. The ambassador took a mandarin into his carriage, one day, to carry him a little way, but the mandarin trembled at every motion, thinking he was going to be overturned. The most serious inconvenience to the mandarin was the necessity for the coach box being in front, and raised higher than the seats of those within. The mandarin protested that his master would never enter such a carriage. It was by no means satisfactory to the emperor, and was therefore suffered to remain in his lumber room, with other objects of little or no value.

ARTIFICIAL OPENING IN THE HUMAN STOMACH.

We have recently had an opportunity of witnessing the extraordinary circumstance of an artificial outlet to the human stomach.

The case was that of a young man, a Canadian, by the name of Alexis St. Martin, who in June 1822, when at the age of eighteen years, was accidentally wounded, by the discharge of a musket, so severely, that not only half of the sixth rib was carried away, along with very large portions of skin and muscle, and the fifth rib fractured; but the lungs and the diaphragm were also torn, and a hole made in the side of the stomach. The whole mass of materials forced from the musket, (which went off at the distance of only a yard from his body) together with fragments of clothing and pieces of rib, were driven into the cavity of the chest. But by the skill and attention of his surgeon, Dr. Beaumont, of the United States army, aided by a good natural constitution, in about a year he recovered entire health, not without an opening, however, at his side into the stomach, nearly an inch in diameter.

From the period of his recovery, June 1823, he has been uniformly healthy. Since 1825, he has had a family, and supported them by hard labor. Much of the time, he has been in the service of his surgeon, Dr. Beaumont, who has instituted a series of curious and useful experiments to ascertain the nature of the gastric juice, contained in the stomach, as well as the progress of the digestive process. We have not room to enter into an account of these experiments in a work of this kind. They are already given to the world, by Dr. B. himself in a most interesting volume recently

published in this city; to which we beg leave to refer our readers for particulars.

About the middle of April, 1834, Dr. Beaumont and Mr. Martin arrived in this city on a journey eastward, and stopped at the Tremont House. The physicians of Boston, and a few friends, were politely invited to call. It was about five o'clock in the afternoon. Mr. Martin had eaten nothing since eight o'clock in the morning, of course the stomach was empty. He now drank a pint of water. Presently he removed a small pledget kept on the artificial opening, and the water flowed out of the stomach into a basin, as pure, almost, as it entered.

The opening, as we have before observed, is nearly an inch in diameter. The outside of the stomach, at one point, adheres to the inner surface of the ribs, and thus the opening would always remain, were it not that a small fold or doubling of the coats of the stomach, slightly protudes and fills it. This sort of natural valve, is, however, easily removed by the finger or by a gum-elastic tube, and the contents of the stomach will not only flow out, but you may see a considerable way into the cavity of the stomach. With a strong light, from a proper quarter, Dr. B. even says the cardiac orifice (where the food enters) may be seen. A probe may be introduced into the stomach six inches or more. Nothing of the kind gives him any pain, unless you touch a small circular portion of the external orifice, which is most exquisitely sensible.

The case is remarkable, viewed in the light of a mere curiosity. But it is to medical men that it is *most* interesting. It is one which probably never occurred before, and may never happen again.

THE PROGRESS OF KNOWLEDGE.

ORIGIN AND HISTORY OF NEWSPAPERS.

Newspapers originated in Italy. During the war which was waged by the republic of Venice against Solyman II. in Dalmatia, in 1563, the custom was introduced of communicating the military and commercial information received, by written sheets, to be read at a particular place by those who were anxious to obtain information, for which a small sum was regularly paid. The first regular paper was a monthly, written, government paper at Venice. Those who first wrote newspapers were called, in the language of the Italians, *menanti*. Their object was, too generally, to spread defamatory remarks. So common was this abuse, that in one instance the gazette was called the "lying paper." There is even a German proverb in use to this day, which says "He lies like print;" and it were most earnestly to be wished that there were no papers at the present time to which the proverb is applicable.

The first British newspaper the "English Mercurie," was printed in 1588. These publications, at that time, and for a long period afterward, were published in the shape of small pamphlets, as appears from the following quotation from Burton, in 1614: "If any one read now-a-days, it is a play-book, or a pamphlet of news." From 1588 to 1622 few of these publications appeared; but in 1622, one was commenced under the title of "The News of the Present Week." This was continued for several years.

The first British newspaper in the present form was first published in August 1661. The first daily

paper, the Orange Intelligencer, was commenced about thirty years afterward, soon after the coronation of William, prince of Orange, and his queen; and called the Orange Intelligencer. In 1709, about twenty years later, there were eighteen newspapers published, but still only one daily. In 1724, the number was three daily, six weekly, and ten triweekly papers. In 1792 it had increased to thirteen daily, twenty evening, and ninety-three weekly papers in the whole island. In 1829, the whole number of newspapers published in Great Britain was 325; of which 213 were in England, and fifty-five in London alone.

The first newspaper published in Germany, in numbered sheets, was in 1612. It originated in circumstances not dissimilar to those which have been detailed respecting Italy. What number it now has, is very considerable. Hamburg, alone, has twenty-one.

The first newspaper in France appears to have originated with a physician. This man gained much of his practice, by collecting news to amuse his patients. Gradually his papers fell into the form of a regular newspaper. This was in 1632. There are now in Paris 169 periodicals of all kinds, political, literary, scientific and religious; besides 75 in the provinces!

Newspapers were first published in Constantinople in 1797, and in Greece in 1821. Chili in South America received its first printing press from the United States in 1810; it has now seven gazettes Colombia has sixteen. One is established at Liberia, on the western coast of Africa, and another in South Africa. There are even several papers in New Holland, and, in short, in most of the civilized and semi-civilized countries of the world.

In the United States, though there are more newspapers, they generally have smaller lists of subscribers than some of the European papers. With us, 2000 subscribers is quite a respectable list; though a few have many more; but in England, France, and Germany the number often rises to 15,000, and sometimes to 40,000. One or two in England have a number vastly greater than even this.

The first newspaper in the United States was published at Boston, April 24, 1704, by John Campbell, Post Master. It was called the "Boston News Letter." The second was issued Aug. 1721, by a brother of Dr. Franklin. Mr. Franklin met with considerable opposition in his undertaking, even from his friends; as they thought it would never succeed. A single newspaper, for America, they thought, was sufficient.

Fifty years afterwards, viz. in 1771, the number had risen to 25; and in 1775, only four years later, it had increased to 37. This sudden increase was, no doubt, owing to the sudden increase of important intelligence at that eventful period.

In 1810, during an interval of thirty-five years, the number of newspapers and periodicals of every kind had increased to 358; in 1826 it was 640; and in 1828, 802; and in 1830, nearly 1,000. The whole number, at the present time, 1834, cannot be less than 1,200. Of these, New York is supposed to contain about one fifth, Pennsylvania, one fifth, and Massachusetts and Ohio together, nearly another fifth. Thus these four states, with a little more than one third of the population of the whole Union contain three fifths of all the newspapers. There are not less than 60 dailies.

The comparative number of periodicals in dif-

ferent cities and countries of the world cannot be exactly stated, but the following estimate approaches the truth. It is for the year 1827.

Countries.	*Population.*	*No. of Periodicals*
United States	11,600,000	800
Great Britain	23,400,000	483
Sweden and Norway	3,866,000	82
Denmark	2,000,000	80
Prussia	12,416,000	288
Netherlands	6,143,000	150
Germany	13,300,000	305
France	32,000,000	490
Saxony	1,400,000	54
Hanover	1,550,000	16
Bavaria	3,960,000	48
States of the Church	2,598,000	6

Cities.	*Population.*	*No. of Periodicals*
Paris	890,000	176
Berlin	221,000	53
London	1,400,000	50
Copenhagen	109,000	57
Stockholm	78,000	30
Rome	154,000	3
Boston	60,000	60
New York	175,000	50

The *names* of newspapers seem in all periods to have indicated, as a general rule, their object. But there were in former times, as there are even now, some of a very different character. Not a few in every age, like the titles of some books, have been rather calculated to excite attention by their quaintness or their novelty. Thus about the time of Cromwell we find the following. "News from Hull;" "Truths from York;" "Warranted Tid-

ings from Ireland;" "The Scot's Dove;" "The Parliament Kite;" "The Secret Owl." Sometimes political animosities produced opposition titles, Thus "Heraclitus ridens," was followed by "Democritus ridens;" and "The Weekly Discoverer," by "The Discoverer stripped naked;" and "Mercurius Britannicus" was grappled by "Mercurius Mastix, faithfully lashing all Scouts, Mercuries, Posts, Spies, and others."

This affair of titles to newspapers, will remind those who are familiar with the history of Roger Williams, of Rhode Island memory, of the titles of one or two of his books. Mr. Williams wrote a book against persecution, entitled, "The Bloody Tenet." Mr. Cotton, in reply, wrote, "The Bloody Tenet washed, and made white in the blood of the Lamb;" upon which Mr. W. again took up his pen and produced a work, entitled, "The Bloody Tenet yet more bloody by Mr. Cotton's endeavor to wash it white."

THOMAS JENKINS,

A SELF-TAUGHT COLORED MAN.

Jenkins' birth and early employments—Fondness for learning—Found with a book and slate—Teaches himself Latin and Greek—Becomes a teacher—Goes to college—Resumes his teaching—Is sent a missionary to Mauritius.

Thomas Jenkins was the son of an African king on the coast of Guinea, who took it into his head to send his son to England for his education. The British captain, to whom the king consigned him, and who gave him the name of Thomas Jenkins, died soon after he returned home, and Jenkins was thus thrown destitute upon the world. A farmer who was a very distant relative of the captain, at

length took him home with him, and employed him in rocking the cradle, looking after the poultry, pigs, &c. He was successively advanced to the offices of cowherd and teamster. When he went to live with the farmer, he could hardly understand a word of English, but he very soon acquired a good knowledge of the common dialect.

After he became "a stout boy," he was transferred to another gentleman, where he became a sort of Jack-of-all-trades. He was cowherd, stable boy, errand boy, or any thing else convenient. He was soon found to have a taste for learning, and to have actually made some progress. How he acquired his first lessons, nobody ever knew. Perhaps it was through the medium of the servants.

The lady of the house was soon surprised to find he had a strange fondness for candle ends. Every scrap of wick and tallow that he fell in with, was secreted and taken away to his loft above the stable; and unpleasant suspicions began to be raised against him. On watching him, at one time, after he had retired to his den, it was found, to the great astonishment of all, that he was engaged with a book and a slate, in making rude imitations of the letters of the alphabet. It was also found that he kept an old fiddle by him; and that it cost the horses many sleepless nights.

His master now put him to an evening school, where he made such progress as astonished all who knew it; and though constantly occupied still, during the day, he soon began to *instruct himself in Latin and Greek.* A boy in the neighborhood lent him many books; and the family and others favored him. Without the means of any regular instruction, he soon gained a tolerable knowledge of Latin and Greek, and began the study of Mathematics.

His eye now turned toward a dictionary; and going one night to an auction, he (with the assistance of another boy, and about a shilling from a gentleman who stood by,) bid off one.

When he was twenty years of age, a vacancy occurring in a small parish school, among other candidates for the office, Jenkins, with a heap of books under his arm, made his appearance. The committee were surprised, but on examining him, and the testimonials of character he brought, his knowledge was found so thorough, and his morals so correct, that he was received in preference to the other candidates. The Presbytery, however, in prejudice, voted him out again; but the circumstance produced so much excitement that an "opposition school" was soon got up, and Jenkins was placed at the head of it.

The result was most happy. In his method of communicating knowledge and of governing his school, he was excellent; and he was beloved by all his pupils. No teacher ever possessed a kinder disposition or better temper. Five days of every week were spent in the school, and the sixth he occupied in walking four or five miles, and reciting his own lessons to another teacher.

By conducting the school one or two years, he was able to save nearly a hundred dollars. Now it was that he began to think of spending a winter at the college. Many were surprised at this, and among the rest the professors, most of whom generously relinquished their fees. One gentleman, perceiving what the bent of his mind was, gave him a draft upon a merchant in the city for whatever money he wanted. Having spent the winter in Edinburgh, he returned, once more to his professional duties.

The sequel of his history is not very well known. It appears, however, that he was deputed by the Society for promoting Christian Knowledge, as a missionary to Mauritius, and that he still resides there. He entered this field of labor about ten years ago.—It were greatly to be wished he had been restored by some benevolent society to his native friends and country, where his influence in civilizing and instructing his fellow men would probably have been much greater than in Mauritius.

THE MAHOGANY TREE.

The mahogany-tree is found in great quantities on the low and woody lands, and even upon the rocks and in the countries on the western shores of the Caribbean sea, about Honduras and Campeachy. It is also abundant in the Islands of Cuba and Hayti, and it used to be plentiful in Jamaica, where it was of excellent quality; but most of the larger trees have been cut down. It was formerly abundant on the Bahamas, where it grew, on the rocks, to a great height, and four feet in diameter. In the earliest periods it was much used by the Spaniards in ship-building. When first introduced by them it was very dark and hard, and without much of that beautiful variety of color which now renders it superior to all other timber for cabinet-work; but it was more durable, and took a higher polish with less labor. Of course it was wholly unknown to the ancients.

The mahogany is a graceful tree, with many branches that form a very handsome head. The flowers are small and whitish, and the seed-vessel has some resemblance to that of the Barbadoes

cedar: hence some botanists have given the name of cedar to the tree.

This tree so far corresponds with the pine tribe, that the timber is best upon the coldest soils and in the most exposed situations. When it grows upon moist soils and warm lands, it is soft, coarse, spongy, and contains sap-wood, into which some worms will eat. That which is most accessible at Honduras is of this description; and therefore it is only used for coarser works, or for a ground on which to lay veneers of the choicer sorts. For the latter purpose it is well adapted, as it holds glue better than deal, and, when properly seasoned, is not so apt to warp or to be eaten by insects. When it grows in favorable situations, where it has room to spread, it is of much better quality and puts out large branches, the junctions of which with the stem furnish those beautifully curled pieces of which the choicest veneers are made. When among rocks and much exposed, the size is inferior

and there is not so much variety of shading; but the timber is far superior, and the color is more rich. A mahogany log was recently sold in Boston for seven hundred and sixteen dollars. It was bought by the owners of a Piano Forte manufactory

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THE POI BIRD.

This is a representation of a bird in New Zealand which travellers have called the poe, or poi bird, from a little tuft of white curled feathers which it has under its throat, and which appear to resemble certain white flowers worn as ornaments by the inhabitants of Otaheite, and known by that name (poi.) The bird is also remarkable both for the beauty of its plumage, and the sweetness of its song. This last trait of character is the more remarkable, as it belongs to the class of birds which feed on honey, whose notes are not generally melodious.

OUR SUMMER FRUITS.

a. Currant — *b*. Gooseberry — *c*. Raspberry — *d*. Strawberry-
e. Mulberry.

THE CURRANT. Botanists reckon thirty-five species of currants. It is sufficient for our present purpose, if we speak of four kinds; the red, the white, the flesh colored, and the black: though there are a great many sorts of each kind. Currants, are found in abundance, in the northern and middle United States and in Europe. They are much valued, especially the red kind. The white, and flesh colored kinds are not quite so common, but are equally good.

The juice of currants, boiled with an equal weight of loaf sugar, forms an agreeable substance called *currant jelly*. By adding sugar to currant juice and fermenting it, we may also produce wine The berries of the black kind are sometimes larger than the others. In Siberia, they are said to be as large as the hazel nut. The jelly of the black currant has been so much used in the disease of

the throat called quinsy, that the currants themselves have sometimes been called *quinsy* berries.

The dried leaves of the black currant are sometimes used as substitute for tea. They should be prepared for the purpose in a similar manner. Some people prefer it to the tea brought from China: probably it might be used more frequently than it now is, if it were "far-fetched and dear-bought." The dried leaves of the common whortleberry bush, have also been recommended as a substitute for tea; and are much more wholesome than either that or currant leaves.

The dried currants—as they are called—of the shops, are not real currants. They are a small kind of grape.

Gooseberries. It is sufficient to notice four kinds of these;—the white, the yellow, the green, and the red; although we are told of 200 varieties. The yellow are the best; and the small ones are better and richer than the large. This is rather singular. The larger of fruits, nuts, kernels, &c are, generally, the more perfect, and, of course, the better.

Gooseberries are used, generally, for the same purposes as currants; though for ourselves we believe them to be less wholesome. But neither are wholesome in the way that three fourths of mankind eat them. It is not enough that they have changed their color;—there ought to be developed a certain sweetness, before we touch them. There is a most surprising difference between a currant that is merely red, and one which is dead ripe; although the color is not very different.

Raspberries. These, *when ripe*, especially the red, and the white kinds, are exceedingly wholesome berries, and ought to be more extensively

cultivated than the currant or the gooseberry. They are short-lived, however; for there are only about two or three days, during which they are perfect. Eaten sooner, they are unripe; eaten later they have lost much of their flavor. This remark, to the truth of which almost every body can attest in regard to raspberries, is nearly as applicable to most other summer fruits. None of them are in perfection long at a time. One is ripe, and may be eaten moderately with perfect safety, —nay, even with much advantage—for a few days; then comes another in its stead; and so on through the summer. Many suppose they produce bowel complaints; but it is much more probable that if eaten in the way which the Creator intended, they act as a preventive of disease. Whether, however, they have much effect, either way, is not yet, very well proved. There are thirty-five varieties of the raspberry.

Strawberries, are found in almost every part of the world. They are divided into seven kinds; the scarlet, black, pine, green, alpine, hautbois, and wood. The pine strawberry—a native of Virginia and Louisiana, though found in all parts of the country—is much the best. Its color, on both sides, is a deep red.

Almost any kind of strawberry will greatly improve by cultivation. The black sort are the most obstinate. The small wood strawberry, when brought out of the woods, and cultivated in gardens and fields, becomes far better, as well as larger than when it grew in the shade.

The strawberry women in Great Britain, while the season lasts, are known to travel, in going to, and returning from market, from forty to fifty miles in a day, with a heavy basket on their heads: thus

enduring, for several weeks, and without apparent injury, a degree of fatigue that would destroy a horse.

The strawberry, in its perfection, lasts a little longer than the raspberry; but not much. They lose their flavor, if fully ripe, very soon after they are picked. A sudden shower will often render them almost tasteless.

Mulberries. The mulberry tree is very ancient —and in the process of making silk, is one of the most useful trees in the world. But our present purpose is to speak merely of its *fruit.*

There are four common kinds of mulberries— the white, the black, the red, and the paper mulberry. We do not believe this fruit to be very wholesome, except for birds; though it is very often eaten. The red kind, though sugary, have a slight degree of acidity. The white are sweet, but rather insipid. The black have also, along with their sweetness, a slight acidity.

The black mulberry tree yield its fruit in the greatest abundance; and the Romans preferred its fruit to all others. There is *one* thing truly remarkable about it, which is, that it is in perfection *only a few moments*, which is at the time when a slight jar will detach it from the tree.

Two things are to be remembered, in regard to all fruits whatever, 1. that however ripe and excellent they may *appear*, they are never so good when raised in hot houses, as when they ripen in the sun, as the Author of nature intended: 2. that those individual fruits which ripen first on a tree or shrub, are almost always defective, in some way or other; often by means of a worm or other insect. Sometimes, not only one, but scores or hundreds of animals are found in a single apple or other fruit.

NEW-ENGLAND MANNERS AND CUSTOMS.

HISTORY OF PORTLAND.

Portland sixty or seventy years ago—Dress—Funeral expenditures. Amusements—Account of a spinning-bee.

Two octavo volumes, embracing the History of Portland, from its first settlement, by William Willis, have recently come to our hands, and have afforded us both amusement and instruction.

The fashion in dress which prevailed no longer ago than 1760, required gentlemen of distinction in Portland to wear the cocked hat, the bush wig, and the red cloak. The color of their principal garments was drab. "Their coats were made with large cuffs, reaching to the elbows, and low collars. All classes wore breeches, which had not the advantage of being kept up, as in modern times, by means of suspenders. The *dandies* of the day wore embroidered silk vests, with long pocket flaps, and ruffles over their hands.

"Wigs were an expensive article of dress, and had to be renewed about as often as breeches." The latter were sometimes of *buckskin*. A few entries in the diary of a gentleman, will illustrate this matter: "1766, Jan. 25, wig £16.17.6." "1769, Dec. 22, sent to S. P. a jo and a pistareen to buy a wig," and on the 28th day of the same month "received my new buckskin breeches."

Funerals appear to have been peculiarly expensive, if we may judge from the following example, copied from the memorandum of a respectable citizen of Portland, dated 1771. The articles were purchased at the funeral of his son. "Eight pairs of colored gloves, 16s.; 5 pairs of white women's gloves, 9s. 4d.; 1 pair of women's colored

gloves, 2s.; 2 dozen lemons, 4 bottles of wine, and shoe buckles, 10s.; knee buckles, 8d.

Those of us who are often declaiming against the luxury and extravagance of modern times, and sighing for golden days that are gone by, would do well to look into this subject a little. Perhaps we should find our complaint not "new under the sun," but that the generation which preceded us had their forms of luxury and extravagance, as well as the present.

Among the *amusements* in Maine, fifty years ago, was what was denominated the *spinning-bee*. Mr. Willis gives the following anecdote of one of these *bees*. It took place in May, 1788.

"On the first instant, assembled at the house of Rev. Samuel Deane, of this town, (Portland,) more than one hundred of the fair sex, married and single ladies, most of whom were skilled in the important art of spinning. An emulous spirit was never more apparent than in this beautiful assembly. The majority of fair hands gave motion to not less than 60 wheels. Many were occupied in preparing the materials, besides those who attended to the entertainment of the rest, provision for which was mostly presented by the guests themselves, or sent in by other generous promoters of the exhibition, as were also the materials of the work. Near the close of the day, Mrs. Deane was presented with 236 seven knotted skeins of excellent cotton and linen yarn, the work of the day, excepting about a dozen skeins which some of the company brought in ready spun. Some had spun six, and many not less than five skeins apiece. To conclude and crown the day, a numerous band of the best singers attended in the evening, and performed an agreeable variety of excellent pieces in psalmody."

But the fifty years that have passed, have not entirely carried away this custom. It still prevails in many parts of New England; modified in some respects, but essentially the same. Nor are *spinning* bees alone. Either among the young or the old of one or other of the sexes, we find *quilting-bees, sewing-bees, apple-paring-bees, husking-bees, hoeing-bees, mowing-bees* — indeed, almost every sort of *bee*. They may not all be conducted, it is true, with as much order or simplicity, or be crowned with as much profit, as was Mrs. D's spinning-bee.

JANE C. RIDER, THE SPRINGFIELD SOMNAM BULIST.

Early education and habits—Attack of her disease—Description—Her recovery.

The case of Jane C. Rider, of Springfield, has, for some time, attracted public attention, and been a prominent theme of the newspapers. Messrs. G. & C. Merriam have, very recently, published a small "Memoir" from the pen of her physician, Dr. Belden, which sets the whole affair in its proper light, so far as in the present state of human knowledge, the matter is susceptible of explanation. We say this with the more confidence from the knowledge we have of the talents, medical skill, and general character of Dr. B. The public may place the most implicit reliance on his statements.

We do not intend to give a particular account of the *work* or the *subject* of the work; our object is chiefly to direct those who are curious to know the facts in the case, to the proper place for correct information. The following brief statement is all for which we have room.

Jane C. Rider is now in her 17th year. She received a good common education, and early evinced a taste for reading, especially for poetry. But though of a full habit, with those plump and rosy cheeks which are often mistaken for the index of health, she has always been subject to frequent headaches. About three years since, she was affected with the *Chorea*, or St. Vitus's dance. The spot on her head which phrenologists call the region of "marvellousness" has always been tender, and sometimes painful upon pressure, and is much more so, during her headaches. During the paroxysms to which she has lately been subject, it was the seat of so much agony, that she often exclaimed, "It ought to be cut open!" Her eyes have usually been so sensible to light, that if she goes abroad in a clear day without a veil, she always suffers. From infancy she has been in the habit of sleeping longer and more soundly than is usual; seldom dreaming, or seldom *waking* of her own accord. In early childhood, she was in the habit of occasionally rising during her sleep.

On the night of June 24th, 1833, she was taken ill, a physician was sent for, who, with others, though, her deranged, and she was treated accordingly. She soon recovered, but had no recollection of what had passed. One night, about a month afterward, she had another attack. She left her bed, dressed herself, and prepared breakfast, just as if it had been broad daylight; and all this, as her friends who watched her observed, with her eyes shut, and with no light except a single lamp which stood on the breakfast table, to enable the family to observe her. After this she went to bed again, and again rose in the morning without any recollection of what had happened.

It was not long before the paroxyms returned two or three times a week. Sometimes she got up during the time they lasted; at others she lay in bed. But she always thought it day. Occasionally she would sew; and was able to thread her needle in the dark. Sometimes she would sing, though she had never been known to sing before; at others she would read, or repeat poetry. Her eyes were generally closed; but sometimes wide open. She appeared to see as well, however, with them shut, as open. At the end of a paroxysm, she usually fell into a profound sleep.

At length, her paroxysms began to occur in the daytime as well as in the night, and to continue a long time. One lasted 48 hours. During this, she was visited by hundreds of people. She read, with her eyes closed, a great variety of cards presented to her, told the time by watches, read short sentences, &c.

To *prove* that she did not open her eyes to see objects before her, large wads of cotton were repeatedly placed over her closed eyes so as to fill up the cavity, and a large black silk handkerchief bound over them. In these circumstances, she would read cards or any thing else that was presented to her, as well as write sentences very correctly; and it was always observed that she would place every thing the right side upwards, before she read it.

These and a thousand similar experiments were often repeated, during the paroxysms. There was no room for deception. *She was diseased;* and the disease consisted in a wonderful sensibility of the organ of vision to the rays of light; so wonderful that the small number of rays which reached the *retina*, through the eyelids and bandages, was suffi-

cient to enable her to see, in the manner described. This is the concurring opinion of all who best know the case, and are best qualified to give an opinion.

But we must close our remarks. We would only add, that on the 5th of Dec. 1833 she was taken to the insane hospital at Worcester, where, under judicious medical treatment, she soon recovered. There has been no return of her paroxysms since about the 1st of February. 1834

A CARAVAN OF PILGRIMS.

A PILGRIM caravan, in crossing the African deserts, presents a most singular sight. A traveller who witnessed the setting out of one of them from Cairo, several years ago, has given the following minute description of it. The cavalcade, he says, was six hours in passing him!

The most striking appearance was the camels in their splendid trappings, laden with provisions, and clothes, and cookery apparatus, and water-skins, and tents, and artillery, and holy Sheiks, and Mamelukes. There were camels "with two brass field-pieces each"—others "with bells and streamers"—others "with men beating kettle drums"—others "covered with purple velvet"—others "with men walking by their sides, playing on flutes and flageolets"—others "handsomely ornamented about their necks, their bridles being studded with silver, intermixed with glass beads of all colors, and ostrich feathers on their foreheads"—and last of all "the sacred camel, an extraordinary large camel, with a fine bridle studded with jewels and gold, and led by two holy Sheiks, in green, a square house or

Rush of a Caravan to a Stream in the Desert.

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chapel on his back." In addition to these camel splendors there were horses with every variety of caparison; mamelukes, and pikemen, and janissaries, and agas, and the commander of the pilgrimage in robes of satin—to say nothing of numberless "buffoons playing many pranks."

Differing from the usual practice of commercial caravans, the pilgrimage is performed chiefly by night. The caravan generally moves about four o'clock in the afternoon, and travels without stopping till an hour or two after sunrise. A large supply of torches is carried from Cairo, to be lighted during the hours of darkness. The Bedouins, who convey provisions for the troops, travel by day only, and in advance of the caravan. The watering-places on the route are regularly established. Each is supplied with a large tank, and protected by soldiers who reside in a castle by the well, throughout the year. On parts of the route the wells are frequent, and the water good; but on others, three days of the journey frequently intervene between one watering-place and another,—and the fountain is often brackish.

When the Cairo caravan is completely assembled, and the formalities which we have just described are gone through, the great body of travellers begin to move, the stations of the different parties of Hadjys, according to their provinces and towns, being appointed, and rigidly observed throughout the march. This order is determined by the geographical proximity of the place from which each party comes. At Adjeroud, where the Egyptian caravan halts on the second day's march, it is supplied with water from Suez; and here it reposes a day and a night, to prepare for a forced march of three days and two nights, through a region

where there is no water, the desert of El Tyh, which nearly extends from the head of one gulf of the Red Sea to the other—that is, from Suez to Akaba.

It is here that the privations both of men and quadrupeds commence. The splendid trappings of the camels, their velvets and their bells, have lost their attraction; but their power of endurance becomes the safety of the pilgrims: while the richly caparisoned horse, impatient of thirst, and more easily subdued by fatigue, is more frequently a burden to the caravan than an advantage.

The route of the Egyptian caravan, after it passes the Akaba, lies by the shores of the Red Sea for nearly six hundred miles; and, therefore, it cannot properly be said at any time after the first ten days' march to be upon the desert, as the Syrian caravan is for thirty days. But its difficulties are more numerous; and it has to pass regions quite as arid and inhospitable. Every part of Arabia is covered with sandy plains; and when the mountain steeps are crossed, the long extended valleys rarely offer water. The Arabic language is rich in words expressing every variety of desert, differing from each other by very slight shades of meaning: thus, they have terms descriptive of a plain—a plain in the mountain—a plain covered with herbs—a naked sandy desert—a stony desert—a desert with little spots of pasturage—a desert without water.

Although the caravan route from Cairo to Mecca presents, with the exception of the desert El Tyh, none of those enormous wastes, like the Great Southern Desert of Arabia, "where the Arabs have only the sun and the stars to direct their way;" nor is, like the Libyan desert, "a sea without waters, an earth without solidity, disdaining to

hold a foot-print as a testimony of subjection," there are many tracts, as well as the desert from Suez to Akaba, in the forty days' journey, which offer to the pilgrim abundance of fatigue and suffering. If water fail, as it sometimes does, even at the wells, particularly dry seasons—if the water-skins evaporate more quickly than they ordinarily do—the camel's power of endurance is severely tried—for his wants are the last attended to. Happy are the pilgrims if the rain of the mountains have filled the banks of some little river. Even the much enduring camels, at the sight of water, after many days' abstinence, break the halters by which they are led, and in rushing or stumbling down the banks, throw off their loads, and occasion infinite disorder. One traveller has, however, described a scene, in which the patience of the camel is contrasted in a remarkable way with the eagerness of the horse:—

"It was near midnight when we reached a marshy ground, in which a clear stream was flowing along, through beds of tall and thick rushes, but so hidden by these, that the noise of its flow was heard long before the stream itself could be seen. From the length of the march, and the exhausting heat of the atmosphere, even at night, the horses were exceedingly thirsty: their impatient restlessness, evinced by their tramping, neighing, and eager impatience to rush all to one particular point, gave us, indeed, the first indications of our approach to water, which was perceptible to their stronger scent long before it was even heard by us.

"On reaching the brink of this stream, for which purpose we had been forcibly turned aside, by the ungovernable fury of the animals, to the southward of our route, the banks were found to be so high

above the surface of the water, that the horses could not reach it to drink. Some, more impatient than the rest, plunged themselves and their riders at once into the current; and, after being led swimming to a less elevated part of the bank over which they could mount, were extricated with considerable difficulty; while two of the horses of the caravan, who were more heavily laden than the others, by carrying the baggage as well as the persons of their riders, were drowned. The stream was narrow but deep, and had a soft muddy bottom, in which another of the horses became so fastly stuck, that he was suffocated in a few minutes. The camels marched patiently along the edge of the bank, as well as those persons of the caravan who were provided with skins and other vessels containing small supplies of water; but the horses could not, by all the power of their riders, be kept from the stream, any more than the crowd of thirsty pilgrims, who, many of them having no small vessels to dip up the water from the brook, followed the example of the impatient horses, and plunged at once into the current.

"This scene, which, amidst the obscurity of the night, the cries of the animals, the shouting and quarrelling of the people, and the indistinct, and perhaps exaggerated apprehensions of danger, from a totally unexpected cause, had assumed an almost awful character, lasted for upwards of an hour."

Liberty.—Liberty must be earned before it can be enjoyed. The goddess, as some call it, will never *descend* to the people; but the people must *ascend* to her.

THE SWEET POTATOE.

The Spanish, or sweet potatoe, is a native of the West Indies, but is raised easily, and in great abundance in the southern United States, and in all tropical climates. It belongs to a family of plants, which the botanists call *convolvulus*, because many of the species, (120 out of 166,) are *twining*. The sweet potatoe, in the language of botany, is the convolvulus batatus.

The batata, or sweet potatoe, sends out many trailing stalks, extending six or eight feet every way, round, and of a pale green color. At each joint, roots are put forth, which, in a climate sufficiently warm, grow to be very large tubers, so that from a single plant, forty or fifty large roots are

sometimes produced. The leaves are heart shaped, and the flowers are purple.

This plant is propagated by laying down the young shoots in the spring. In its native climate it multiplies itself almost spontaneously; for if the branches of roots which have been pulled up are suffered to remain on the ground, and a shower of rain falls soon after they have been broken off, their vegetation will recommence. In the New England states, it requires great pains, and a favorable soil and season, to bring it to perfection, except in hot beds.

The roots are sweet and nutritious, though rather insipid. Their taste is not unlike that of a boiled chestnut. They are cooked in nearly all the various ways of the common potatoe, but they are not so easily preserved from decay, nor are they so generally used, even in those countries which produce both. The common potatoe, though less nutritious, is one of the most useful vegetables in the world; and is daily becoming more so. Boiled, it is a most valuable food for domestic animals, as well as for the human race. Its nutritious properties appear to be increased by cooking; probably from the evolution of saccharine matter, which is known to be one of the most nutritious substances in nature.

AGRICULTURAL HYMN.

Great God of *Eden!* 'Twas thy hand
That first clad earth in bloom,
And shed upon a smiling land
Nature's first rich perfume.
Fresh from thy glance the flowers sprang,
Kissed by the sun's first rays—
While plain, and hill, and valley rang
With life, and joy, and praise.

God of the *Clouds!* Thy hand can ope
  The fountains of the sky,
And on th' expectant thirsty crop
  Pour down the rich supply.
The farmer, when the seed time 's o'er,
  Joys in the mercies given;
Thinks on thy promis'd harvest's store,
  And, smiling, looks to heaven.

God of the *Sheaf!* To thee alone
  Are due our thanks and praise—
When harvest's grateful labor 's done,
  On plenty glad we gaze.
Then shall our hearts on Heaven rest,
  Thy grace we will adore,
And thank that God whose mercies blest
  Our basket and our store.

PER.

How many hundred times is this clumsy Latin word, PER, used, instead of the plain, simple English, "a" or "an!" We were looking over the pages of one of our school arithmetics, the other day, and found no less than seven or eight of them to a page, for a long distance. There was per day, per week, per month, per year, per lb. per quarter, per cwt., per ton, per yard, per mile, &c.; till we were thoroughly tired of it. Why not say *a* day, *a* week, *a* ton, &c.? *A* would answer every purpose. If the arithmetic, in question, containing about 220 pages, has but two of these *pers* on a page, upon an average, each scholar who buys a book, has to to pay for 440 waste letters, besides the paper on which it is printed; which, though but little in a single book, would be, probably, 30,000 lost pages

in printing 100,000 copies, equal to 136 volumes of the work, or 68 dollars.

MACKEREL FISHING.

June and July are the season for mackerel fishing in England. They are caught in nets, and sometimes in immense numbers. In June, 1821, the success of the boats employed in this business, on the coast, was beyond all former parallel. Only sixteen boats are said to have caught, in one day, June 30th., mackerel enough to come to more than 5,250 pounds sterling; or 328 pounds, or 1,456 dollars each.

THE SUN.

Size of the Sun—Startling Calculations—Spots on its surface—Opinions concerning their nature.

This immense orb is about 95 millions of miles from the earth. Its diameter has been estimated at 883,246 English or common miles; its circumference, of course, is 2,774,799: and its surface contains nearly 2,450,830,245,547 square miles; or more than 12,200 times as many as the surface of the earth. If we should imagine, as some have done, that the sun is a habitable globe; and allow it to be as thickly peopled as the world we live in, it must contain at least 8,570,000,000,000 inhabitants; equal to the population of about 25,000 empires as China, or 650,000 such countries as the United States.

These calculations are startling, but there are others which are scarcely less so. The size of the

sun, as above stated, is pretty well known, nor can there be room for any considerable mistake about the size of the planets. Its diameter is 111 times greater than that of the earth, and its magnitude 1,300,000 greater. It is even many times greater than the combined mass of all the planets.

To illustrate more fully the comparative magnitude of the earth and sun, let us suppose that as many earths as would equal the sun in bulk were laid together, side by side, in a circle in close contact. They would fill a circumference more than eighteen times as great as the earth's orbit, and nearly equal to the orbit of Herschel, the most distant planet yet known in our system! If these

globes were placed in close contact, instead of in a single ring as above, they would fill a circle of nearly ten millions of miles in diameter!

Such is the general brilliance of the sun—that for many ages its surface was supposed to be one uniform and uninterrupted blaze of light. But when we view it with a telescope of even moderate magnifying power, furnished with a piece of dark or smoked glass, to interrupt a portion of its rays, we perceive, occasionally, a number of dark spots upon its surface, of various magnitudes and forms. These are sometimes so large as to be distinguishable by the naked eye.

From the invention of telescopes in the year 1690, to the present time, such spots have been frequently observed on the face of the sun, sometimes only a few together, or perhaps one alone. It should be observed that there are bright spots observable, as well dark ones. All these spots, as they vary in number, vary considerably in size Sometimes they can hardly be seen, at others they are so large as to exceed, in size, the whole earth Still they are rarely large enough to be distinguished without the aid of a telescope.

There has been much speculation about the nature of these spots. From their great changes in size, shape, &c., some have supposed they were dissolved from time to time, and afterward formed anew. Others that they are a kind of cloud; and, if they were so, the sun must have an atmosphere. Those who believed the sun to be an immense body of liquid fire, supposed that the spots were the eminences of large masses of thick matter, sometimes bright and sometimes dark, which by the irregular agitation of the fluids, sometimes swim upon the surface, and at other times sink and disappear.

Dr. Herschel viewed the subject differently. He supposed the sun to be a solid body, with mountains and valleys, like our earth, but larger, in about the same proportion as the sun's size exceeds that of the earth; that it is surrounded by a lucid atmosphere, by the decomposition of which light is emitted; that this atmosphere is sometimes so transparent in certain places, as to allow the body of the sun to be seen through it; that a dark spot in the sun is a part of its surface thus perceived; and that the *bright* spots are more copious mixtures of such fluids as decompose each other. In other words, he thought that some, at least, of the dark spots, are nothing but the projection of mountains above the surface of the shining fluid, and the bright spots, elevated parts of the sun, on which luminous matter is condensed.

He supposed also that the rays of the sun are by no means hot in themselves, but only produce heat by acting on other substances. In short, he believed the sun to be a great central planet, formed of similar materials to those which compose the rest of the system; and that it is even peopled with inhabitants of some sort or other. It is said, however, that Dr. Herschel entertained different views on this point, at different periods of his life.

Sometimes a very singular appearance attends the sun, just before or just after sunset, especially in the beginning of March. It is called the zodiacal light. It is of a whitish color, but so faint and thin, that stars may be seen through it. The shape of this light spot is that of a cone, with its base towards the sun; the top reaching from 45 to 125 degrees above him. In the torrid zone, this light is almost constantly visible. Its cause is unknown.

A VILLAGE OF NOBLES.

There is a village in Hungary, entirely inhabited by *nobles*. Its name is said to be *Nemeswitt;* the first two syllables forming a word which signifies "noble." The origin of the name is thus accounted for.—A Hungarian monarch, chancing to halt at this village, was in such raptures with the savouriness of a cheese set before him, that he ennobled every soul in it, with full descent of their nobility to their posterity for ever!

A CITY IN THE MOON.

Schroeter conjectures the existence of a great city in the moon, to the north of *Marius,* (a spot marked by astronomers,) and an extensive canal towards *Hygena*, (another spot.) He believes a place, named by the learned, on the face of the moon, *Mare Imbrium*, to be as fertile as the Campania, near Rome. Professor Frauenhofer, of Munich, a few years since, announced the discovery of a *fortification* in this satellite! Doubtful as all this is, such is the perfection of telescopes, at this time, that an edifice as large as the capitol at Washington, might be clearly and distinctly seen. A vast celestial field yet remains to be explored; for astronomy is really only in its infancy.

FASHIONABLE EARS.

The Brazilian Indians, after slitting their ears, insert gourds, beginning with the neck, and keep crowding in further and further, from time to time, till the lower portion actually touches the shoulders. By this contrivance, ornaments show to advantage; but when they go into battle, they are tied together behind the head to be out of the way.

CHANGE OF COLOR.

White Negroes and Indians.

It may not be known to some of our readers that the *real skin*,—that part which, if it were tanned, would form leather, is of the same color in the darkest African, as in the whitest European, the reddest American Indian, or the yellowest Asiatic. The real skin of man and other animals, is covered over with two other membranes or skins. The outside membrane is that which is raised, when we blister a part of the surface of the body. It appears thick and tough in such cases, because it is soaked and swelled; but it is naturally very thin indeed. Between this *cuticle*, as it is called, and the real skin, lies the other layer. This, too, is very thin, as well as soft and pulpy; and this it is which in different persons is of a different color. It is called by anatomists the *rete mucosum*.

This 'rete mucosum' has sometimes been known to change its color during the life of the individual. The African and American Indian have both been known to become white. In regard to the African, several instances of the kind have been known to occur in the United States.

A White African. There is now in Philadelphia (says Wistar in his Anatomy) a female between thirty and forty years of age, in whom this process is going on. One of her parents was a negro, and the other a mulatto, and her original complexion agreed with her origin. But a change of color began during her childhood, in small spots, which have gradually increased so much that at this time (1811) the whole of her body and limbs are nearly white, with the exception of her hands and feet. A large proportion of her face is also white, and the remainder of it much lighter than it

was originally. At this time some part of her face has an unnatural whiteness, but the skin of her forearms appears like that of an European, in a perfectly healthy state. This change of color is attended with no unusual sensation; so that if she did not see the alteration, she would not suspect that her skin was any way different now from what it had originally been. She does not appear sensible that the white parts are more susceptible of irritation from the rays of the sun than they were formerly, but they are so much covered by her dress that the experiment has never yet been fairly made.

The first appearance of a change is a slight diminution of the dark color. This change goes on gradually, and then small spots appear, which are perfectly white. They gradually increase, and run into each other, till a large white spot is formed.

White Indian. The following account of a White Indian near Clinton, in Yew York, was written by Dr. Bissell, to the Editor of the "Eclectic Journal of Science," of Columbus, Ohio, and published in a late number of that interesting paper.

The subject of this singular phenomenon, is Samuel Adams, belonging to the Brotherton Tribe of Indians, living in this vicinity. He is now ninety years of age, and has been gradually becoming white for the last thirty years of his life. Considering his great age, he is remarkably vigorous and healthy;—having ever been able, during the warm season of the year, to attend to the cultivation of his land, or ride on horseback almost any distance. He so well retains possession of his mental faculties, that I have no hesitation in giving full credit to the statement, which he has made to me, of the facts connected with the present subject.

His skin began to undergo a change of color at

the age of sixty; very soon after an attack of acute rheumatism. The first appearance of it, was a small white patch near the region of the stomach. Soon after this, spots of the same color occurred on different parts of the body and limbs; gradually increasing both in size and number.

He says, he was at this time greatly alarmed, and visited the different mineral springs in this State, in the hope of removing a color so odious to him, by ablution in their waters. Finding these measures ineffectual, and being convinced that no danger was to be apprehended from a white skin, he relinquished the idea of regaining his native color; and (to use his own words,) "patiently submitted to become like the white men in every thing, but their dishonesty."

Since it commenced, the change has been constantly going on, though not in a very uniform manner;—at times progressing very rapidly, at others, remaining nearly stationary. These irregularities seem never to have been influenced by the season of the year, as the same have occurred at all seasons. The original color, at this time, remains only on the forehead, forepart of the face and neck, with a few small patches on the arms. The skin on the body and lower extremities, is perfectly white, soft, and pliable—having nothing of a dull chalky appearance; neither does it possess the livid hue, generally observable in the skins of albinoes, but is remarkably fine and clear. It has, in fact, a much nearer resemblance to the delicate skin of a female, than to that of a man of "fourscore years and ten."

In those parts which have become white, perspiration has always been somewhat less than in the others. They are also more sensible—being much

more susceptible of the effects of heat and cold, and are often blistered by the heat of the sun. They are, likewise, very tender, and bleed much when cut or lacerated, and heal with difficulty. Neither the pigmentum nigrum (dark part of the inside of the eye) nor hair, has undergone any other change than is incident to old age. The latter is moderately grey, and the eye presents no other than the dim, cloudy appearance, generally found in the eyes of old people. His vision is now tolerably perfect, and he assured me it never was in the least impaired, until the age of eighty.

The secretions and excretions are natural, and he now labors under no disease, other than a trembling of the limbs, occasioned by a paralytic shock about eight years ago; with a slight cough, which attends him in the winter.

He has had no children since the age of sixty; consequently the case furnishes no facts which enable us to determine how far a change of color in the skin of the parent, might affect the complexion of the offspring.

Whether the attack of rheumatism which preceded this appearance, had any influence in its production, is extremely doubtful. It appears probable to me, it had none. I have thought proper, however, to state the fact, and leave you to draw what inference you please from it.'

Albinoes. There are persons to be found among most of the different races of men, who are born with this peculiar whiteness of the whole skin, which continues during life. In these persons, the hair, eyebrows, beard, &c. have a remarkably white appearance, and there is no part of the eye dark. They are generally short-sighted. They are commonly called *Albinoes*.

THE MALTON GRAVE DIGGER.

Birth — Education — Employment — Family — Habits — Dress — Character.

"SIMPLE SOULS," as they are sometimes called, do not attract much interest in a busy, bustling world, like this. Yet we very much mistake if they are not sometimes as really useful to their race,—occupying a place in society quite as respectable in the view of Him who searches all hearts, knows all motives and purposes, and sees the end

from the beginning,—as those who secure notoriety by filling the earth with noise, dissensions, or bloodshed.

One of these simple souls, was an inhabitant of Malton, in Yorkshire, England. His name was Michael Parker. He was born in 1758, and died in 1823. He was the grave-digger of the parish of Malton for nearly half a century, and though the whole number of the inhabitants, in Michael's days never much exceeded 3,500, he dug the graves, during his lifetime, of above 5,000 persons.

Michael was born of poor parents, and like the children of many other poor people, he was left to stroll in the streets. There were then no Benevolent Associations to take little "unfortunates" from the almost certain road to idleness, and vice, and punishment; or to give them instruction. Michael never knew even his alphabet. He could easily find other boys of his own age, who were neglected like himself, and join in their rustic games; and sometimes in their mischievous excursions into gardens and orchards. But somehow or other—we know not how it happened—while the greater part of his associates pursued their wicked course, from one step to another, till it ended in their ruin, Michael turned his attention, at length, to "work," and escaped destruction. While quite young, he became a coal carrier at one of the wharves; and labored constantly, and dilligently at his occupation, till he was appointed the grave-digger of Malton. After this he pursued *both* employments.

Michael at length married, and became the father of a family. He still continued to be industrious, and no public house—for many such there were in the neighborhood,—could tempt him from his business. He loved company, and would not

have disliked the glass; but he knew what might be *at the bottom of it.* Moreover he loved his home, and wife, and children, better than eating or drinking at a pot-house; and while many of his neighbors, who thought they had much wiser heads than Michael, were quaffing, and singing, and indulging there, he was at ease in his own dwelling, at least doing no mischief. He was sometimes reduced to his last shilling, but it was not for "grog."

We have said Michael did no mischief. He had one mischievous habit—and we have known many heads of families in *New* England addicted to the same—that of relating, in the presence of his children, the stories of his garden and orchard adventures; and his many narrow escapes from detection. Now, though stealing fruits and melons should not chance to be the particular crime to which children are now exposed, does not every father, who is not more ignorant, even, than Michael Parker, know that he is thus leading them "into temptation?" It is of little consequence, after a father has described his feats, with a feeling of self gratulation that the keen discernment of the little group do not fail to discover in his very countenance, that he says in a kind of affected tone; "My children, I hope none of you will ever imitate my bad example." His feelings, as he lingered among the scenes he had been describing, were caught by sympathy; and made an impression which cold precepts cannot obliterate.

Michael's dress was very odd. A large slouching broadbrimmed hat screened his neck from coal dust, and protected his face from the rays of the sun. He wore a fustian jacket with large holland pockets; an ample pair of corduroys hung loosely from his hips; his colored worsted stockings generally

looked the worse for wear, but were always well darned by his industrious wife; and though the darning did not always match with the original color, there were never any holes visible. His large shoes, made for service rather than show, were tied with hempen string; his shoulders were clothed with a wide-spread coal sack, and unless his sack was full, he carried a large coal-poker under his arm. Thus accoutred, he was accustomed to pass the streets with a very slow step, making an appearance that often excited amusement, and sometimes exposed him to the insults of rude boys, whom he used to threaten, but never to injure.

Strange as it may seem, he was passionately fond of the employment of grave-digging. His avocation at length awakened, in him, a new and unsuspected disposition to inquiry. The curious structure of a bone—the cranium—which had once been the seat of life and intellect, the silent progress of decay in the last remains of mortality, engaged his attention, and employed many of his leisure moments; and he was accustomed to pay frequent and prolonged visits to the abodes of death. This circumstance, together with the facts that he had a chamber in his cottage which contained a strange exhibition of assorted bones, and always manifested a strong desire to increase his collections, exposed him to the suspicion and displeasure of some of his neighbors. But Michael's honesty was unimpeachable, and as he came honestly by his bones, his conscience was not disturbed by these alarms.

Nothing, indeed, to the day of his death, could abate his love for poring over the relics of the dead, or his pleasure in digging graves. He was often seen in a grave, resting for a moment on his spade,

and gazing with intense interest at some remnant of a bone which he had just uncovered; then suddenly starting up, as if from a trance, and again plying his work.

A neighbor one day said to him; "Well, Michael, you seem to like the exercise of making graves; how would you like to bury *me*?" After a moment's pause, and a shrewd cast of the eye, Michael replied; "Why, Sir, you *must be buried*,—and I would make you as good a grave as any body." He sometimes complained of the badness of the *trade*—and that he had no graves to dig.

At length he had the misfortune to lose his wife. But *her* grave, he *could not dig!*—Michael deeply mourned her loss. He was no metaphysician, and therefore he had a heart; he was not a genius, yet his heart had feelings. On coming home from a hard days labor, he had been accustomed to find a clean hearth, a table neatly spread with plain, wholesome cheer, and the honest smile of health, contentment, and happiness. He had been a tender husband; but his home had now lost its attraction, and he felt desolate. All his tenderness now centered in a motherless child. Little William now became his constant companion, and he was scarcely ever seen trudging the streets without him. His intense fondness for him was so well known that many mischievous people would snatch him up and run off with him, pretending to steal him. Poor Michael, ever sensitive to danger, would thereupon raise a hue and cry, and rush forward, to rescue him.

Michael's loneliness induced him to marry a second time. But here he was unfortunate, for his new wife was worthless; and one day after packing up all the clothes of her predecessor which she

could find, she eloped. Michael had little reason for regret, yet he sometimes grieved. Willy used to console him by saying; " She has not taken the bread loaf with her, pa! "

But another great trial was yet to come. William at eighteen years of age, sickened, and, in a little time, died. Michael's cup of sorrow was now full; but he bore his trial like a Christian. Not a murmur escaped his lips; he bowed submissively to the Power that had removed his greatest, last, earthly joy. He raised a gentle hillock over the remains of his son, decked it with flowers, which he nurtured with peculiar care, and planted by the grave a small tree.

Michael now had nothing human left him to love, and he retired to his cottage, and secluded himself. Society had no more charms for him, and he shunned it. Yet benevolent as his nature was, he " wanted something to be kind to." This he found at length, even in the solitude of his home. His cat became the object of his attachment. She used to purr to him, stretch herself upon his knees, and cheer him with a thousand gambols. Finally he added to his collection a dog, and afterward a turtle dove, and a leveret. Puss's progeny were all preserved; and at one time no less than sixteen cats were inmates of Michael's house, and shared his porringer and milk. But impelled, as they sometimes were, by hunger, they began at length to commit depredations on the neighborhood; and the parish officers were obliged to dislodge them.

The interior of Michael's cottage was rather amusing. He suffered no week to pass without a thorough renovation of his furniture. On that occasion the antique chairs and tables were regularly rubbed with oil, which, in length of time, gave

them an ebon hue; and the walls and floor whitened in places where the most lively contrast would be formed with the furniture. The old elbow chair, thickly incrusted with oil, retained its ancient nook.

Around the apartment, at measured distances, were his pictures, as he called them; for even Michael had a sort of taste for the fine arts. He was at great pains to collect every thing that had the appearance of a picture or print, not exceeding the value of sixpence. A pasteboard figure, representing any droll object, or a colored print, he regarded as a treasure; and he was a great admirer of sign-boards. Many engravings and drawings, suitable to his taste, were presented to him. He likewise *practised drawing!* Being one day asked what he had lately been doing, he replied he had been making "a landscape;" and on inquiring the subject, he said; "A *cat* upon a *wall.*"

Pots, pans, brushes, &c. were always stowed away in some snug corner of his apartment; but his stock of delf and crockery ware, greatly reduced by the lapse of years, and by hard service, was duly ranged in order, in a very conspicuous place.

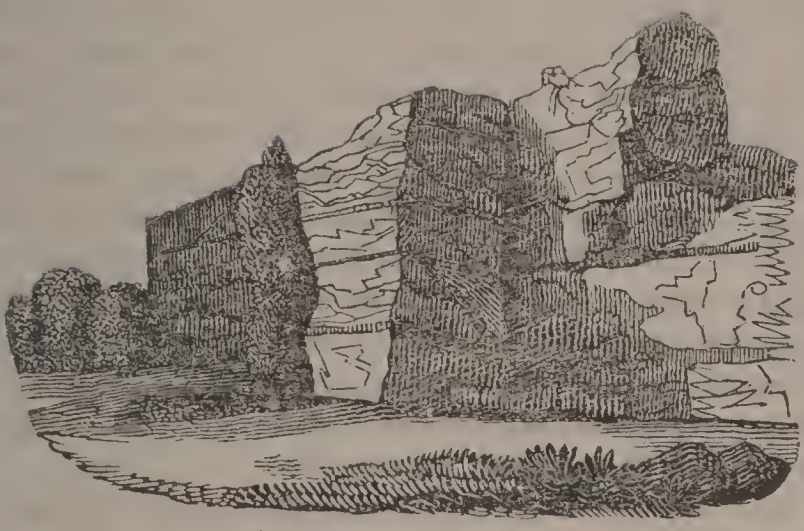
When at his meals, seated in his ancient chair near the fireplace, before a small table, with a copious bowl of porridge, the door bolted against intruders, his cats mewing about him; the grim pictures on the wall, all telling some history interesting to nobody but himself, Michael was an interesting object of study for an artist, or a philosopher.

In the latter part of his life, he began to feel, most severely, the hard hand of poverty. No longer able to trudge to the adjoining villages with his sack of coals, and unable to purchase a team, his little trade dwindled away almost to nothing. Be

sides this, he became greatly afflicted with rheumatism. Till this time, his spirit of independence had not allowed him to receive alms at all. But years, and poverty, and the hard hand of necessity, bowed his spirits, and he submitted to beg his morsel of daily bread. Still he was unwilling to ask for food directly; but would begin by asking about the person's health—by saying that the trade was very bad,—that, for a long time he had been without any employment, &c. Sometimes, however, when this indirect mode of appeal was insufficient, he made a more direct application for relief.

Finally parish aid was demanded. They proposed to remove him to the work house, but this he opposed with such earnestness, and accompanied his plea with so many piteous entreaties, that he was at length permitted to end his days beneath the roof of his humble cottage, and the cottage of his forefathers. In the upper room, which had been the depository of his museum, and which toward the close of his life, served as a dormitory and wardrobe, he both drew his first breath and yielded up his last.

"MAN WANTS BUT LITTLE."—The room we lived in was six feet by twelve; our furniture was a bed and bedstead, one pine table, three Windsor chairs, a soup pot, tea kettle, six cups and saucers, a griddle, frying-pan, and brander. It was enough—it was all we wanted; we were all the world to one another. Now we have carpets to shake, brasses to scour, stairs to scrub, mahogany to polish, china to break, servants to direct—and what does it all amount to? For your own necessity, one bed, one cup, one knife and fork, table and chair, are enough.—*Grant Thorburn.*



ROMAN RUINS.

Innumerable relics, of the ancient Roman settlements in Great Britian, and of the genius and industry of their founders, have been brought to light from time to time, and are still, occasionally, discovered. The massive remains of Roman architecture are even now, objects of our wonder and admiration. Their coins, their domestic and ornamental vessels, and the beautiful pavements which formed the flooring of their dwellings, are also still preserved in many of the public museums.

The engraving represents the rude remains of what was probably an ancient Roman castle. It is found at Richborough in Kent. This was a Roman sea port, near the mouth of a small river. The plough at present passes over the place where the town once stood, and nothing remains to mark the spot, but the broken fragments of a few castles.

MORNING MEETINGS FOR MUTUAL IMPROVEMENT.

The Spaniards have a species of public amuse-

ment (it deserves a better name), which consists in the superior class of the male inhabitants collecting, between ten and eleven in the forenoon, in some public promenade or open place. These assemblages bear a striking resemblance to the ancient forum and *αγορα*. The subjects there discussed are not merely private concerns, but the leading topics of the day; and the groups who take part in the latter, handle the matter in debate with a degree of talent and ardor, as well as inspiring freedom, which, however incredible it may seem, are rarely to be found under any other sky. In Madrid the favorite place of meeting is the Puerta del Sol. These morning meetings are so dearly prized by the Spaniards, that many of them declare that all the recreations which London, Paris and Vienna afforded, could not make amends for the loss of the brief matin hour at the Puerta del Sol. But these assemblages carry, intrinsically, far greater weight with them than what appears upon the surface. Any person capable of appreciating the character and bias of the ever changing crowds which collect, and disperse to collect again, at the Puerta, needs no other key to the course which public affairs are likely to take, and will seldom find himself at fault in his conjectures.

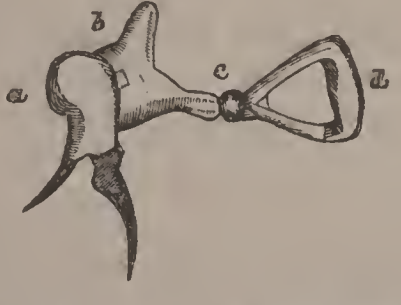
BANANA.

No fruit is more delicious or prolific than this. There are two species, known however among navigators by the terms *short* and *long* bananas. Each banana grows to about the size of an inch and a half in diameter, and six or ten inches in length. The stalk very much resembles common Indian corn about which the fruit winds like a spiral stair-case.

THE HUMAN FRAME.

'THE HOUSE I LIVE IN,' is an unpublished volume of 144 pages, in twenty-two chapters, and illustrated by thirty engravings. It is designed for the young, is intended as the first part of a series, and is confined to the "frame" of "the house." The bones of the lower limbs are represented as pillars, or *underpinning;* the body as the *house* itself, *two stories* high, standing on those pillars, and the head as the *cupola.* The eyes are the *windows;* the mouth and ears, are doors. Indeed, all the more important parts are compared to particular portions of the frame of a wooden building;— sills, posts, braces, girts, hinges, &c. With the account of the bones, in this figurative style, the author has intermixed, in smaller type, explanations and anecdotes, with a view to enliven the work and make it interesting to the young;—and at the end of nearly every chapter is a set of questions upon it. The following is the eleventh chapter, except the questions, which are omitted.

CHAPTER XI.



Two of the doors furnished with odd instruments—Not very dangerous ones—Description of them, and of the drum or tympanum.

In this chapter I am to tell you about two of the five doors of the "House I live in."

If I should tell you that you could scarcely pass beyond the threshold of either of these doors, before you would meet with a *hammer*, an *anvil*, a *ring*, and a *stirrup*, you might not think the entrance very inviting. You have no wish to be chained up, or hammered on an anvil, you would probably say.

But the hammer is not large enough to be a very formidable weapon. It is scarcely half as long as a pin. The anvil is also very small. And as for the ring, it is smaller than either. It is not bigger round than a grain of sand.

You will see a little how they all look, by examining the engraving at the head of this chapter.

Just within the human ear,—say three quarters of an inch from the outside,—is a film or membrane, drawn tightly across the passage, like a drum head. It is called the *tympanum*, which is the Latin word for *drum*.

Beyond the tympanum, but *close to it*, we find *four little bones*. Nobody exactly knows for what purpose the Creator intended them, though we know they are some how or other concerned in *hearing*. Sounds reach the brain through the passage of the ear; and if there were no ear, we should hear no sound. HE who made the ear for sound, doubtless made all parts of it. And there is good reason to believe that every part of it is useful.

The bone at *a*, is called the *malleus*, because it has been supposed to resemble a *mallet* or hammer; but it looks as much like a crooked club with a branch sticking out from it, as like either. It is close to the tympanum, and touches it.

The *incus* or anvil, (*b* is the next. I think it looks as much like one of the smaller double teeth, as like an anvil.

Farther on is the little ring, (*c*). It is very small, and seems to connect the incus to the stirrup. Anatomists do not call it a *ring*, however. They call it by the hard name of *os orbiculare*. *Os* means *bone*, and *orbiculare*, means *ring-shaped*.

The *stapes*, or stirrup, (*d*) you cannot help knowing by its shape. It is the farthest within the head.

This little chain of bones is stretched along in the passage from the outside towards the inside of the head, beginning at the tympanum, and ending at a small opening a considerable distance within the head. They stand in the engraving nearly as they do in the right ear of a person, with the malleus outward, and the stapes inward towards the brain.

THE PHILOSOPHY OF DEW.

From the manner in which we commonly hear the deposition of Dew spoken of, we are led to think that the ideas of many people are vague and incorrect. Dew is spoken of as falling, as though it were formed in the clouds, or somewhere in the region above us, and showered down from thence, like the rain which so abundantly waters and purifies the earth. But this is evidently incorrect ; for if dew were formed in the clouds, or showered down from the atmosphere, it is manifest that we should find it equally deposited on all substances ; we should find it upon sand and slate roofs, and upon our side walks and pavements it would lie plentifully. This hypothesis will then be abandoned. To those to whom the subject of the formation and deposition of dew may seem obscure, we would beg leave to suggest the following ideas.

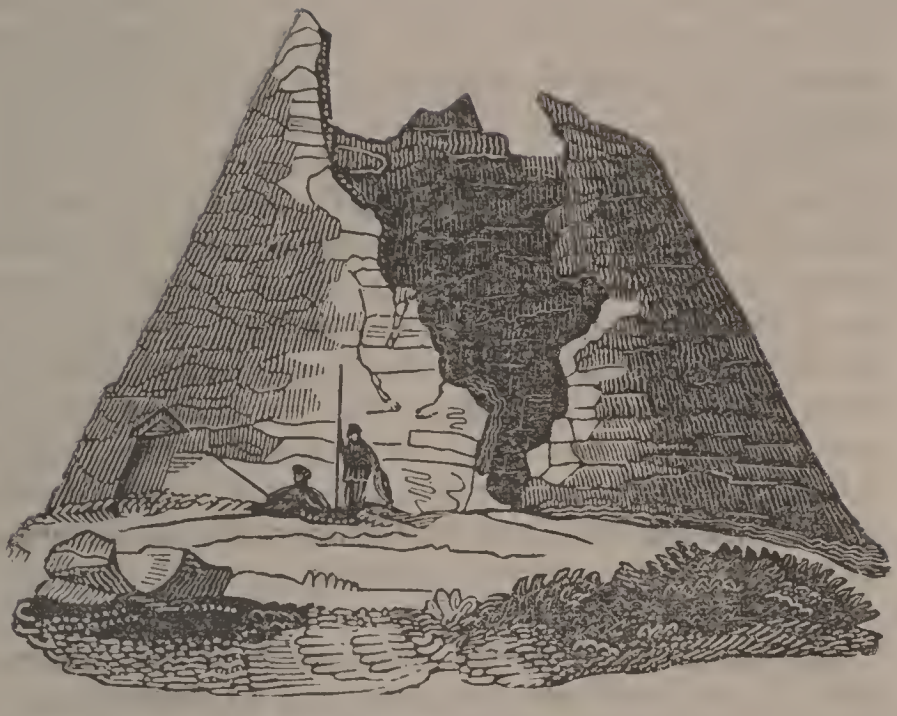
It is well known that the atmosphere, when apparently in a state of dryness, holds in solution by virtue of the caloric it contains, a greater or less quantity of water. When the weather is warmest and driest, the quantity of water or moisture then held in solution is greatest. It need not be said, that this moisture is the result of evaporation carried on

rapidly through the day. When the temperature of the air is low, and the moisture, thus evaporated, is in a state of imperfect solution, we feel sensibly the dampness of the weather; as in the winter, this moisture, not dissolved by the heat of the atmosphere, is frozen, and appears in the form of hoar frost.

In the evening, when the heat of the sun declines, the earth radiates rapidly the heat it has acquired during the day; while the atmosphere, which is not a good radiator, brings its caloric in contact with every plant and blade of grass, colder than itself, to which its caloric is imparted, and the atmosphere deprived of it. The air having its solvent power thus reduced, becomes unable to retain in solution so much moisture, and consequently deposits or distils it upon those bodies and vegetables which are colder than itself.

It will be observed, then, that but little dew is deposited during cloudy evenings; as clouds not only prevent the rapid radiation of the earth, which takes place at other times, but they do themselves impart their caloric to the earth. It is on fine clear nights that the dew is most perfect and unobstructed. We may observe, too, that the deposition of dew is most abundant towards morning, when the atmosphere has been almost deprived of its solvent power, or caloric.

It will be observed too, that dew is only deposited on those bodies which freely radiate caloric; since it is the radiation of heat which most readily reduces the earth to a temperature below that of the atmosphere. For this reason we find little or no dew upon sand or pavements, but a beautiful distribution of it upon those plants and vegetables which so greatly need it.



SCOTCH DUNS.

Duns are remains of a peculiar kind of buildings, which abound principally in the northern parts of Scotland, and in the Orkney and Shetland Isles. They are also found occasionally, in Ireland, Wales, and Cornwall in England; and even in Norway, and Sweden.

They are of two kinds. The first, like that which is represented by the engraving, are circular castles, or pyramids. They generally stand upon some eminence; and a few of them have additional works of defence around them. One at Moura, is surrounded by a heap of stones; which once formed a regular wall. Others are guarded by ditches of considerable size, both wet and dry.

The second kind of Dun, consists of numerous buildings, nearly or entirely under ground. Some of them are much larger than others. They consist of strong circular walls, without cement, surrounding a large oval area, which appears to have been divided into several apartments, leaving a large internal space in the centre, round which the other apartments ranged. They have a slight resemblance to *long burrows* for wild quadrupeds. The roof of earth appears to have been supported, however, by one or more wooden columns, with crossbeams, resting upon the walls. The interior space was probably the dwelling; while the surrounding rooms served for the purpose of laying up provisions and other necessary stores. The hillock, over the upper flooring, was raised to keep the habitation dry, and the ditches which surrounded many of them were probably for the same purpose.

By whom these Duns were built is not known, but it is most likely that they are of Scandinavian origin. One reason for this belief is, that the houses of the Icelanders, (who are allowed to be the least unmingled Gothic Colony) even now exhibit a strong resemblance to these buildings.

The most probable opinion is, that the circular kind were used for *watch-towers;* and sometimes as forts. The under ground sort were, perhaps, winter retreats of the ancient inhabitants. During the summer, they were probably employed with their flocks on the hills, or in cultivating the open fields, in the plains, where they had temporary dwellings only; and when the cold season approached, they retired, with their effects, to these subterranean habitations.

MADRAS, AND THE MONSOONS.

City of Madras—Difficulty of landing—Massoolah boats—Catamarans—A Monsoon—its violence—Duration—Madras roads—Anecdotes.

After a most delightful sail, (from Ceylon,) we anchored in the roadstead of Madras, and a most imposing scene it presents to a stranger! The splendid edifices, with their lofty verandas, and terraced roofs; the tall white columns, which are seen in striking relief against a clear blue sky, and these surrounded by the broad massy fort; the lashing surf, foaming and hissing over a long unbroken line of beach, which the eye follows until its powers of perception are baffled by the distance; the variety of barks, dotting the smooth surface of the waters, beyond the influence of the surge; the groups of dark and busy figures gathered at intervals upon the strand:—all these are objects not to be beheld with indifference. The extent to which the city, when first observed from the offing, seems to stretch beyond the walls, gives it an appearance of vastness, at once singularly unexpected and imposing. The low sandy beach, over which the violently agitated waters are continually chasing and roaring with a din and turbulence which must be heard to be conceived, apparently offering an insurmountable impediment to your passage beyond the perilous barrier which they oppose to your landing; the varieties of the shipping and smaller craft, from the smartly-built fishing smacks, to the unsightly catamaran; the uncouth looking Massoolah boat, laboring along by the side of the buoyant yacht and lighter wherry—

severally afford an agreeable relief to the dull uniformity of a four months voyage.

Shortly after the vessel had cast anchor, I got into a Massoolah boat, which immediately made for the shore. These boats are most singularly constructed. They have the appearance of a rude barge, are flat bottomed, and without timbers, he planks being sewed together with line made from the outer coat of the cocoa nut, and calked with the same material. They are rowed with broad elliptical paddles, and are so extremely limber, that the planks yield readily to the percussion of the waters, and thus, by diminishing the resistance, so break the force of the concussion, that they sustain little injury from the lashing of the surf, which is so terrific in its might and violence, that a European boat has scarcely ever been known to pass through it, without being dashed in pieces. It is really astonishing to see with what dexterity the boatmen manage these awkward-looking machines, steering them through the most boisterous sea, skilfully avoiding the stroke of the billows, and bringing them safely on shore, through a surf that would appal the stoutest heart that had never before witnessed it.

The Massoolah boats are almost invariably attended by catamarans; so that should any of the former chance to upset,—which is sometimes the case, when, from mismanagement, they are suddenly thrown forward upon the crest of breakers,—these last pick up the luckless passengers, and bear them safely to the shore. It very fortunately happens that sharks are seldom found within the influence of the surf, but keep mostly beyond it in he smoother part of the roadstead; so that an accident from the upsetting of a Massoolah boat

seldom occurs. Besides the activity of the catamaran men is so great, that they almost instantly rescue the struggler, and land him safely on the beach, no less to his own astonishment and delight, than to their own praise and profit.

The catamaran is merely three large logs tied together in the form of a raft, the middle log being longer than the other two, and projecting a little above them. Upon this the man who guides it is seated, and seems to be perched, like a gull, on the water, as the heavy raft upon which he sits is seldom seen above the surface.

Upon our landing, we were assailed with the clamor of numberless voices, speaking in an unknown tongue, which, blending with the terrific roaring of the surf, seemed to realize the fabled din of the forges of the Cyclops. However, we soon got into the shelter of the town, where we were still pursued by the boisterous importunities of native servants and tradesmen, who are always clamorously urgent to be employed. They are generally rogues, in proportion to their importunity; but they are among those necessary evils which we are glad to put up with, for the sake of those positive conveniences by which they are balanced. The day after our arrival, a fellow passenger and myself took a very convenient house within the fort, where we determined to remain until the setting in of the monsoon.

On the fifteenth of October, the flag staff was struck, as a signal for all vessels to leave the roads, lest they should be overtaken by the monsoon. On that very morning some premonitory symptoms of the approaching "war of elements" had appeared. Small fleecy clouds were perceived, at intervals, to rise from the horizon, and to dissipate in

a thin and almost imperceptible vapor, over the deep blue of the still bright sky. There was a slight haze upon the distant waters, which seemed gradually to thicken. There was a sensation of suffocating heat in the atmosphere, which, at the same moment, seemed to oppress the lungs and depress the spirit. Towards afternoon, the aspect of the sky began to change; the horizon gathered blackness; and the sun, which had risen so brightly, had passed the meridian, to go down in darkness. Masses of heavy clouds appeared to rise from the sea, black and portentous, accompanied by sudden gusts of wind, that shortly died away, being succeeded by an intense, deathlike stillness, as if the air were in a state of utter stagnation, and its vital properties arrested. It seemed no longer to circulate, until again agitated by the brief but mighty gusts which swept fiercely along, like the giant heralds of the storm. Meanwhile the lower circle of the heavens assumed a deep brassy red, from the partial reflection of the sunbeams upon the thick clouds, which had now everywhere overspread it.

About four o'clock the whole sky was overspread, and the deep gloom of twilight was cast over the town and sea. The atmosphere was condensed almost to the thickness of a mist, which was increased by the thin spray scattered over the land from the sea, by the violence of the increasing gales. The rain now began to fall in sheeted masses, and the wind to howl more continuously, which, mingling with the roar of the surf, produced a tumultous union of sounds, perfectly deafening.

As the house which we occupied overlooked the beach, we could behold the setting in of the monsoon in all its grand and terrific sublimity. The wind, with a force which nothing could resist, bent

the tufted heads of the tall, slim cocoa nut trees, almost to the earth, flinging the light sand into the air, in eddying vortices, until the rain had either so increased its gravity, or beaten it into a mass, as to prevent the wind from raising it. The pale lightning streamed from the clouds, in broad sheets of flame, which appeared to encircle the heavens, as if every element had been changed into fire, and the world was on the eve of a general conflagration; whilst the peal, which instantly followed, was like the explosion of a gunpowder magazine, or the discharge of artillery in the gorge of a mountain, where the surrounding hills multiply, with terrific energy, its deep and astounding echoes The heavens seemed to be one vast reservoir of flame, which was propelled from its voluminous bed by some invisible but omnipotent agency, and threatened to fling its fiery ruin upon every thing around.

In some parts, however, of the pitchy vapor by which the skies were by this time completely overspread, the lightning was seen only occasionally to glimmer a faint streak of light, as if struggling, but unable, to escape from its prison;—igniting, but too weak to burst, the impervious bosoms of those capacious magazines in which it was at once engendered and pent. So heavy and continuous was the rain, that scarcely anything, save these vivid bursts of light, which nothing could arrest or resist, was perceptible through it. The thunder was so painfully loud, that it frequently caused the ear to throb; and it seemed as if mines were every moment exploding in the heavens.

The surf was raised by the wind, and scattered in their billows of foam over the esplanade, (a public walk facing the sea,) which was completely

powdered with the spray. It extends several hundred yards from the beach; and fish, three inches long, were found upon the flat roofs of the houses, either blown from the sea by the violence of the gale, or taken up in water spouts, which, during this tempestuous season, are very prevalent. Whenever these burst, their contents are frequently borne by the sweeping blast to a considerable distance; so that during the violence of these tropical storms, fish are often found alive on the tops of houses.

During the extreme violence of the storm, the heat was occasionally almost beyond endurance, particularly after the first day or two. The wind would, at intervals, entirely subside, so that not a breath of air could be felt. Insects of all kinds crept along the walls, and the most disagreeable reptiles crawled over our floors. Legions of ants, cockroaches, and lizards were forced from their dark recesses by the torrents, and absolutely invaded us. Scorpions, toads, centipedes, and even snakes, made as free entrance into our apartments, as if they had been Hindoo lazar-houses, for the reception of wandering and homeless reptiles. The toads, centipides and snakes we could manage to destroy; but the scorpions, lizards, ants, and cockroaches, defied us by their numbers, and maintained a complete, though not undisturbed possession of our chambers.

Day after day, the same scene was repeated, with somewhat less violence, though at intervals, the might of the hurricane was truly appalling; but during its occasional pauses, visits were paid and returned as usual; for those who are accustomed to the sight, seem almost to forget that there is any thing in these mighty jarrings of inanimate nature, beyond its ordinary conflicts. There are, no doubt,

many parts of the world where, during the presence of hurricanes, the wind is more impetuous, than during these periodical visitations in India; but in none, I will venture to say, does the rain pour in such a mighty deluge; and in no place can the thunder and lightning be more terrific.

The monsoon continued about two months; abating about the middle of December, when the flagstaff was again hoisted, to signify that vessels might safely anchor in the roadstead.—The breaking up of the monsoon is frequently even more violent, if possible, than its setting in. At this time, it was truly stupendous; and I shall never cease to remember it, to the latest period of my existence.

The roadstead at Madras is liable, at all times, to be visited by sudden and severe storms, and even in the calmest weather, there is continually a heavy swell;—nay, it has been noticed that all along the Coromandel coast, the surf is frequently heaviest in calm weather; a circumstance for which no satisfactory reason has yet been assigned.

Madras roads are open to all winds, except that which blows from the west. The anchorage is very foul, from the number of anchors left there. Cast iron is not, however, the only metal which lies at the bottom, undisturbed; for some years ago, the captain of an Indiaman, having turned a large investment into gold, had it secured in a strong box, and sent to the ship. The officer, not knowing the contents of the box, and from its size little imagining that it could be extremely heavy, made use of the ordinary tackling to hoist it on board; but before the box had been raised half way up the ship's side, the tackling broke, and a fortune was

in a moment precipitated into the deep, from which it was never recovered. Divers were employed but without success: it is still among the anchors

Although from the beginning of October to the middle of December, is considered the most dangerous season to remain in Madras roads, yet ships do frequently anchor there at all seasons, in defiance of the cautions, and even peremptory orders from the shore; being ready to cut their cables and run out to sea, on the first intimation of a hurricane.

The only intercourse from the town with ships in stormy weather, is by the Massoolah boats, and when the surf is too high for them to go off, a flag is hoisted at the beach house, called the foul weather flag. While this continues flying, all communication with the shore is interrupted; yet the catamaran men will at all times venture off upon their rafts with letters, or any small packets. These they keep perfectly dry by placing them in their skull caps—a pointed cap, made of matting, over which the folds of their turbans are so tightly twisted, as to prevent the access of the water. Medals are awarded to such among them as distinguish themselves by saving persons when the Massoolah boats are upset, or by conveying letters of importance through the surf, during the violence of the monsoons. They are frequently washed off their catamarans by the prodigious impetus of the waters; but unless a shark happens to seize them, they immediately regain their raft by swimming, at which they are extremely expert.

THE MANIAC,

OR ONCE ONE IS TWO.

A writer in the Rochester Gem, relates that during his travels in Europe, he one day visited the Hospital of Berlin, where he saw a man whose exterior was very striking. His figure, tall and commanding, was bending with age, but more with sorrow; the few scattered hairs which remained on his temples were white, almost as the driven snow, and the deepest melancholy was depicted in his countenance. On inquiring who he was, and what brought him there, he startled, as if from sleep, and after looking round him, began with slow and measured steps to stride the hall, repeating in a low but audible voice, "Once one is two; once one is two." Now and then he would stop and remain with his arms folded on his breast, as if in contemplation, for some minutes, then again resuming his walk, he continued to repeat, "Once one is two; once one is two." His story, as our traveller understood it, was as follows.

Conrad Lange, collector of the revenues of the city of Berlin, had long been known as a man whom nothing could divert from the paths of honesty. Scrupulously exact in all his dealings, and assiduous in the discharge of his official duties, he had acquired the good will and esteem of all who knew him, and the confidence of the minister of finance, whose duty it is to inspect the accounts of all officers connected with the revenue. On casting up his accounts at the close of a particular year, he found a *deficit* of 10,000 ducats. Alarmed at this discovery, he went to the minister, presented his accounts, and informed him that he did not know how it had arisen, and that he had been

robbed by some person bent on his ruin. The minister received his accounts, but thinking it a duty to secure a person who might probably be a defaulter, he caused him to be arrested, and put his accounts into the hands of one of his secretaries for inspection, who returned them the day after, with the information that the deficiency arose from a miscalculation; that in multiplying, Mr. Lange had said, *once one is two*, instead of once one is *one*. The poor man was immediately released from confinement, his accounts returned, and the mistake pointed out. During his imprisonment, which lasted but two days, he had neither eaten, drank, nor taken any repose — and when he appeared his countenance was as pale as death. On receiving his accounts, he was a long time silent, then suddenly awaking as if from a trance, he repeated "once one is two."

He appeared to be entirely insensible of his situation; would neither eat nor drink, unless solicited; and took notice of nothing that passed around him. Whilst repeating his accustomed phrase, if any one corrected him by saying, "once one is *one*," he was recalled for a moment, and said, "ah, right; once one *is* one;" and then again resuming his walk, he continued to repeat, "once one is two." He died shortly after the traveller left Berlin.

This affecting story, whether true or untrue, obviously abounds with lessons of instruction. Alas! how easily is the human mind thrown off its "balance," especially when it is stayed on *this world* only;—and has no experimental knowledge of the meaning of the injunction of Scripture, to cast all our cares upon Him who careth for us, and who heareth even the young ravens cry

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CAPTURE OF ELEPHANTS.

It is remarkable, that in every mode of capturing the wild elephant, man avails himself of the docility of individuals of the same species, which he has already subdued. Birds may be taught to assist in ensnaring other birds; but this is simply an effect of habit. The elephant, on the contrary, has an evident desire to join its master in subduing its own race; and in this treachery to its kind, exercises so much ingenuity, courage, and perseverance, that we cannot find a parallel instance of complete subjection to the will of him to whom it was given to "have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth."

From some peculiar circumstances which have not been accurately explained, large male elephants are sometimes found apart from the herd. Sir Stamford Raffles says, speaking of the elephants that he met with in his journey through the southern Presidencies to Passumah, "The natives fancy that there are two kinds of elephants,—the gaja *berkampong*, those which always go in herds, and which are seldom mischievous, and the gaja *salunggal*, or single elephants, which are much larger and ferocious, going about either singly or only two or three in company. It is probable the latter kind are only the full-grown males." They probably, in many cases, separate themselves from their companions in search of fresh pastures. But as they are sometimes found in a state of considerable irritation, doing much mischief wherever they pass, it has been thought that these have been driven away by the stronger males, and that they are suffering all the agonies of unavailing jealousy. Be-

ing the finest elephants, and therefore the best adapted for sale, the hunters soon mark them for their own. They follow them cautiously by day and by night, with two, and sometimes four trained females, called *Koomkies*. If it be dark they can hear the animal striking his food, to clean it, against his fore-legs, and they then approach tolerably close;—if light, they advance more cautiously. The females gradually move towards him, apparently unconscious of his presence, grazing with great complacency, as if they were, like him, inhabitants of the wild forest. It is soon perceived by them whether he is likely to be entrapped by their arts. The drivers remain concealed at a little distance, while the *koomkies* press round the unhappy *goondah*, or *saun*, (for so this sort of elephant is called). If he abandon himself to the caresses of his new companions, his capture is almost certain. The hunters cautiously creep under him, and during the intoxication of his pleasure, fasten his fore-legs with a strong rope. It is said that the wily females will not only divert his attention from their *mahouts*, but absolutely assist them in fastening the cords. Mr. Howitt made a spirited drawing of this curious scene, from the descriptions of Captain Williamson.

The hind legs of the captive being secured in a similar manner, the hunters leave him to himself, and retire to a short distance. In some cases he is fastened at once to a large tree, if the situation in which he is first entrapped allows this. But under other circumstances, in the first instance his legs are only tied together. When the females quit him he discovers his ignominious condition, and attempts to retreat to the covert of the forest. But he moves with difficulty, in consequence of the

ropes which have been lashed round his limbs. There are long cables trailing behind him; and the mahouts, watching an opportunity, secure these to a tree of sufficient strength. He now becomes furious, throwing himself down, and thrusting his tusks into the earth. If he break the cables, and escape into the forest, the hunters dare not pursue him; but if he is adequately bound, he soon becomes exhausted with his own rage. He is then left to the further operation of hunger, till he is sufficiently subdued to be conducted, under the escort of his treacherous friends, to an appointed station, to which, after a few months' disipline, he becomes reconciled.

IMITATION FROM THE PERSIAN.

BY DR. SOUTHEY.

Lord! who art merciful as well as just,
Incline thine ear to me, a child of dust!
Not what I would, O Lord, I offer thee.
Alas, but what I can!
Father Almighty, who hast made me man,
And bade me look to Heaven, for thou art there,
Accept my sacrifice, and humble prayer.
Four things which are not in thy treasury
I lay before thee, Lord, with this petition.
My nothingness, my wants,
My sins, and my contrition!

EDUCATION. AN EXTRACT.

"If the time shall ever come when this mighty fabric shall totter; when the beacon of joy that now rises in a pillar of fire, a sign and wonder of the world, shall wax dim, the cause will be found in the ignorance of the people. If our union is still to continue, to cheer the hopes and animate the efforts of the oppressed of every nation; if our fields are to be untrod by the hirelings of despotism; if long days of blessedness are to attend our country in her career of glory; if you would have the sun continue to shed his unclouded rays upon the face of freemen, then *educate all the children in the land.* This alone startles the tyrant in his dreams of power, and rouses the slumbering energies of an oppressed people. It was intelligence that reared up the majestic columns of national glory; and this and sound morality alone can prevent their crumbling to ashes."

WHY CHARCOAL TAKES FIRE SPONTANEOUSLY.

Some of our readers may already know that potash contains, as its basis, a metallic substance, called potassium, which though when broken has a brilliant appearance, like silver ore, is much lighter than water, and is very inflammable. Fresh charcoal is supposed to contain a small quantity of this potassium, incased, as it were, in its substance; but which, on its coming gradually in contact with atmospheric air and moisture, soon inflames, and ignites the charcoal. This is supposed to be the reason why this substance has sometimes taken fire spontaneously.

ANCIENT BRITONS, WITH THEIR CORACLES.

The cut represents the rude condition of the ancient Britons at the time of the Roman invasion by Julius Cæsar. The *coracle* was a kind of fishing boat.

If history can be accredited, *one* considerable object of the fishermen of that period was *pearls*. It is said that Cæsar was first interested in the country by the sight of some of them; and it appears that on his return to Rome after his invasion of the island, he offered, at the temple of Venus, in compliance with the blind superstition of his age and country, a breastplate, enriched with pearls, stated, in the inscription which it bore, to be the

produce of his British conquests. One instance is recorded of an ancient British pearl, for which eighty pounds was given. A pearl found in the river Conway in Wales, still adorns the royal crown of England.

Even at the present time, a species of shellfish sometimes containing pearls is found in the Conway, as well as in the Tay of Scotland, and occasionally on the Scottish coast; but the pearls are almost invariable of a bad color and of little value.

THE AMERICAN WHITE OAK.

Where found—Its size—Uses, in the arts, and in medicine.

The *White-Oak* is found throughout the United States, though it is by no means equally diffused. It abounds chiefly in the middle states, particularly in that part of Pennsylvania and Virginia which lie between the Alleganies and the Ohio, a distance of about one hundred and fifty miles, where nine tenths of the forests are frequently composed of these trees, whose healthful appearance evinces the favorable nature of the soil. East of the mountains, this tree is found in every exposure, and in every soil, which is not extremely dry or subject to long inundations; but the largest stocks grow in humid places. In the western districts, where it composes entire forests, the face of the country is undulated; and the yellow soil, consisting partly of clay with calcareous stones, yields abundant crops of wheat.

The white oak attains the elevation of seventy or eighty feet, with a diameter of six or seven feet; but its proportions vary with the soil and climate. Soon after their unfolding, the leaves are reddish above and white and downy beneath; when fully

grown, they are smooth and of a light green on the upper surface. In autumn, they change to a bright violet color, and form an agreeable contrast with the surrounding foliage which has not yet suffered by the frost. This is the only oak on which a few of the dried leaves remain till the circulation is renewed in the spring. By this peculiarity, and by the whiteness of the bark, from which it derives its name, it is easily distinguishable in the winter.

This tree puts forth flowers in May, which are succeeded by acorns of an oval form, large, very sweet, contained in rough, shallow, grayish cups, and borne singly or in pairs, by peduncles eight or ten lines in length, attached, as in all species of annual fructification, to the shoots of the season. The fruit of the white oak is rarely abundant, and frequently, for several years in succession, a few handfuls of acorns could hardly be collected in a large forest where the tree is multiplied. Some stocks produce acorns of a deep blue color.

Of all the American oaks, this is the best and the most generally used, being strong, durable, and of large dimensions. It is less employed than formerly in building, only because it is scarcer, and more costly. Among the uses of this wood, the most important is in ship building. In all the dock yards of the northern and middle states, except Maine, it is almost exclusively employed for the keel, and always for the lower part of the frame and the sides: it is preferred for the knee, when sticks of a proper form can be found. In the smaller ports south of New York, the upper part of the frame is also made of white oak; but such vessels are less esteemed than those constructed of more durable wood. The medicinal properties of oak bark depend on its astringency, and that again on its

tannin. The inner bark of the small branches is the strongest, the middle bark next, and the outer bark is almost useless.

Here is the representation of a small twig of the oak. It exhibits, pretty distinctly, the leaf and acorn.

VARIETIES IN HUMAN FOOD.

The natives of Tonquin, according to *Dampier* give their friends *arrack*, in which snakes and scorpions have been infused. The Ophisophagi and Troglodytes lived on serpents. The Kalmuc Tartars also feed on snakes, &c., and the Syrians eat crocodiles. Tacitus speaks, in his Annals, of a man whose favorite dish, like that of De la Lande, was spiders. These were eaten, without ceremony, whenever they came in their way. Bears' paws,

birds' nests, and sea-slug are dainty bits; and *raw* mutton is preferred to *roasted*, by the natives of Thibet. The inhabitants of Cochin-China value putrid eggs so much more than fresh ones, that they sell higher, by 30 per cent. The Indians of the Bashee Islands, the Tonquinese, and the Arabs feed on locusts, either fresh or pickled, and sometimes broiled on coals; and even Dampier himself, was fond of them. In the Levant, they are sold in the market, as a chief article of diet. The people of Madagascar prefer them to the finest fish. Reindeer, and a kind of meal formed of pounded fish are used in Lapland and Iceland; brind, still quivering with life, in Abyssinia.

In Australia, it is said that a good fat grub would be preferred to almost every thing else; in the West Indies, a kind of caterpillar, found on the palm tree is esteemed a luxury; while the nest of the Java swallow is so rich a dainty that the auxiliary ingredients of the dish will cost about sixty-seven dollars. France dresses up frogs and snails. Frogs, and even vipers, are necessary adjuncts to the mansions of the *noblesse*. In Italy they serve up the *pholus*, *echinus*, *sepia*, &c., while "mine host" at Terracina, asks his guest whether he prefers the *eel of the hedge*, or that of the *river!*

Great Britain, in these matters, is not much behind her continental neighbors, and the United States are coming on "bravely." For not to mention the "braxy" of Scotland,—putrid mutton from sheep which have died of the rot,—it is well known that game and venison are seldom relished till it is "high,"—or in other words, till it is a mass of putrefaction, often abounding with new life, and motion.

Though we do not know that the monstrous sized

liver of the goose has yet found its way into E lish cookery, yet all the rack and ingenuity cruelty and torture have been exhausted to supply the cravings of a depraved and degraded appetite, and one which human nature might be ashamed of. The bull, indeed, may no longer be baited for this purpose; but pigs are still whipped to death, lobsters are boiled alive, cod are crimped, and eels are skinned writhing in agony; not to mention geese, which are nailed to the floor by their webbed feet, that they may repose and fatten. Turkeys are crammed, and finally bled to death under the tongue; hares are hunted and die with inflammation, or fever, or perhaps, inoculated with the poison of hydrophobia, from dogs excited to madness by the chase. Now all these cruelties, though they may blanch the codfish, or tinge the lobster with ruby, excite inflammatory action in the animal suffering them, and inflamed surfaces evolve morbid or poisonous matter.

ITALIAN SONNET.

The soft west wind returning, brings again
  Its lovely family of herbs and flowers,
Progne's gay chant, and Philomela's strain
  Vary the dance of springtide's rosy hours;
And now, o'er every garnished field and plain,
  Glows the bright smile that greets them from above;
  And the warm spirit of returning love
Breathes in the air, and murmurs from the main.
But tears and sighs alone, which gushingly
  Pour from the secret chambers of my heart,
Are all that Spring, returning, brings to me—
  And in the modest smile, or glance of art,
The song of birds, the bloom of heath or tree,
A desert's rugged tract and savage forms I see.

GRANITE MOUNTAIN CUT INTO A STATUE.

During my stay in Mysore, I made an excursion thirty miles north of Seringapatam, to examine a huge statue of solid granite, nearly seventy feet in height. It is wonderful how indifferent most people, living on any given spot of the earth's surface, become to the sights in their immediate neighborhood; for when I asked at the Mysore residency for information about this extraordinary colossal statue, which lies within one night's journey, I found the greater number of the party had never seen it; nor could I prevail on any person to accompany me on the expedition. I set out, accordingly, alone, about sunset, went to bed in my palanquin, and never awoke till the bearers

set me down next morning, on the pavement of a choultry near the spot. As I could see nothing of the statue, however, for an intervening grove of trees, I ran to the corner of the wood, where I suddenly obtained a view of this astonishing work of art, standing up boldly against the sky, and showing itself above a low range of intermediate hills.

I certainly never saw any work of man before or since, which gave me so complete an idea of a giant, as this extraordinary statue. It has sometimes been described as an image of Boodh; but I understand that it represents Gomuta Raya, a celebrated saint of the Hindoos.

I possessed no exact means of measuring its height; but the authorities I have consulted on this point, vary between 67 and 70 feet three inches, which is the height stated by Dr. Buchanan; and, from such estimates as I could make, I am sure it cannot be much less. It is admirably placed for effect, as it stands on the summit of a conical granite hill about two hundred feet high, which serves for a pedestal. The statue still constitutes a part of the solid rock, which originally may have been 300 feet high, the stone which formed the upper part of the mountain having been carved away, until nothing but the figure remained. The original shape of the hill cannot, indeed, be correctly inferred from any thing we now see, but it probably formed a steep cone, or peak, of which the bold sculptor has taken such magnificent advantage.

I have often, when travelling since in foreign countries, been struck with natural forms and positions, which, by the hands of a man of genius, might easily and cheaply be turned to account for the construction of similar colossal figures.

ROMAN EMPEROR AND EMPRESS.

About half a century after the birth of Christ, Claudius, a Roman Emperor, not only sent an army into Great Britain, but also went there in person; and the Roman arms, victorious as they usually were, subjugated a part of the island. But both Claudius and his successors, had great difficulty in maintaining their conquests. The Britons rose, at every opportunity, and attempted to throw off the yoke.

Boadicea, a British queen, after many heroic endeavors to relieve her people from their fetters, was treated with so much indignity that she was led to destroy her own life.

Caractatus, king of a tribe in Wales, opposed the Romans, with great bravery and some success, for more than nine years; but was at last defeated

and delivered into the hands of the Romans. Laden with chains, and accompanied by his wife, daughters, and nearest relatives, he was carried to Rome, and exhibited to the Roman people as a spectacle, in the presence of the Emperor, the Empress, and all their gorgeous Court. As he passed along the streets of Rome, and beheld those temples and palaces, which, even in ruins, are among the greatest ornaments of modern Europe, he is said to have expressed himself surprised that the inhabitants of such splendid dwellings, could not let alone the poor Britons in their mud built cabins. When he was exhibited to the multitude, he appeared so calm and composed, that it touched the Empress with compassion; and led her to request and finally to obtain, the lives of him and his family.

The engraving represents an Emperor and Empress of Rome, in those days, in their usual costume.

THE PEN AND PRESS.

"'Tis to the *Pen* and *Press* we mortals owe
All that we hear, and almost all we know,"
So said the famous Pope—and what say we?
We echo much the same—and well we may,
For *Logic* cannot turn to night the day:
In this one single point then—all agree.

What next?—Ye wise men of the wig and gown,
Who write to *instruct*—and not to *please the clown*,
Is it not best to let the *Pen* have sweep?
Is it not fit to let the *Press* have power?
That *they*, all rubbish of the brain may scour,
And keep the goddess LIBERTY from sleep?

Chain but the *Press*, and let the *Pen* lie mute,
We 're but a fraction raised above the brute,
E'en Superstition, then, would rage outright
While Ignorance, in purple pomp would reign,
And Fanatics, to fire the human brain,
Would conjure up a ghostly crew each night.

Both *Pen* and *Press* are Harbingers of *light*,
To banish clouds which dim our mental sight;
They 're friends, substantial, genuine, firm and true
Grant us but *these*—we fear no kingly crown,
We 'll grow in strength, intelligence, renown,
And show old *Mother** what her *Child* can do.

*Britain.

SINGULAR ANIMALS IN SOUTH AMERICA.

In many of the huts or habitations in the Indian villages, as we pass up the great rivers of South America, is found a very singular animal. It is of a soft spongy nature, and smooth skin, not unlike the large slug of England. It is brought into the hut with the fire-wood; or it may creep up the side wall, and get on the edge of the rafters of the ceiling, to which it adheres, looking like a small ball, or, more properly, like the slug coiled up. It is frequently known to drop from its hold without being molested, and wherever it falls, it throws out from its body five or six fangs, which are barbed like a fish-hook, and into whatever softer material than brick or stone it chances to fall, these fangs enter; nor can it be removed unless by cutting the animal off, and picking the prongs out of the substance into which they are so firmly fastened. When they fall on the persons who sit or stand underneath, the consequence is dreadful.

I saw one man, who an hour or two before had one of these creatures alight on his hand and he

was obliged to have it cut off, and the claws and fangs removed by picking them out with the point of a large needle. His hand was immoderately swelled, and very painful; but an immersion in warm oil or fat removed the pain, and restored the hand to its usual appearance.

This account from a traveller, reminds us of an insect in New Grenada, called the *nigua*. It is very small, and inserts itself into the skin and flesh of the foot. Unless quickly removed, it lays eggs, which in a few days become young *niguas*, and scatter in the flesh. Sometimes they penetrate to the bone, and can only be extracted with instruments.

Retirement.—"There are minds," says Jefferson, "which can be pleased by honors and preferments; but I see nothing in them but envy and enmity. It is only necessary to possess them, to know how little they contribute to happiness. * * * * I had rather be shut up, in a very modest cottage, with my books, my family, and a few old friends, dining on simple bacon, and letting the world roll on as it likes, than to occupy the most splendid post which human power can give."

"I have lived," said Dr. Adam Clarke, "to know that the great secret of human happiness is this. Never suffer your energies to stagnate. The old adage of 'too many irons in the fire,' conveys an abominable lie. You cannot have too many; poker, tongs, and all: keep them all agoing."

Truth generally resides midway between extremes

WINTER IN RUSSIA.

How the Russians heat their dwellings—Their winter Dress—Freezing the Face and Extremities.

The houses of the lower orders of people in Russia, are made chiefly of wood, having projecting Swiss roofs, small windows, and narrow balconies with ornamented balustrades. Those of the higher classes are usually built of brick, much like our own, but on a larger scale, and with a profusion of Grecian pillars and pilasters. In all of them, the principal article of furniture is the stove. This consists of four walls of brick, cased outside with white, or painted tiles, which rise to a height of five or six feet, and sometimes to the top of the room. The inside is well furnished with flues, so that the air of the whole room is equally heated by the large radiating surface presented to it. A fire is lighted once in twenty-four hours, and when the wood has ceased to blaze, the heated air is confined within the stove. In large houses, one of these conveniences may be found in almost every room, and always in the hall.

But this careful distribution of heat is not the only precaution rendered necessary by the rigor of a Russian winter. External air must be excluded. For this purpose every house is furnished with double windows. In the month of September, after a succession of fine warm days, the outer windows, which had been displaced during summer, are fitted in, and the interstices calked with tow. A layer of sand, with a few handfuls of salt, is then strewed between the two frames to absorb all the moisture; and the inner ones are secured so that no communication can take place between the external and internal atmosphere.

The use of stoves deprives the Russians of the

cheerful comfort of an English fireside, and windows constantly shut, render the rooms close and sultry; but these means preserve an equality of temperature, so that in the severest winter thermometers throughout the dwelling generally stand at sixty degrees of Fahrenheit.

The climate of Russia is not so prejudicial to foreigners as might be supposed, because the extreme cold of winter and the heat of summer compel them to be observant and careful. Among the natives, too, catarrhs, consumptions, rheumatisms, and other diseases resulting from cold, are not so prevalent as in countries where the rigor of winter is less severe. In more temperate climes, extraordinary precautions are not considered essential to the preservation of life. The natives become careless of the changes of weather, and negligent of themselves; hence the bad effects which ensue.

Here every peasant is a strict observer of the thermometer, and can talk with as much accuracy of the degrees of heat and cold that have been exhibited during the season, as a philosopher in England. He dresses accordingly. In warm weather he wears a shallow broad-brimmed hat, and a caftan, or robe like the Persian's, tied by a belt of silk round the waist. His beard is always long, and his hair close shorn behind, level with the bottom of the ears. A shirt hangs outside his loose trousers; his neck is left bare; and stockings are regarded as a needless luxury. In winter his hat is exchanged for a fur cap, wrapping over the ears and sides of the face; his light trousers of thick cloth or blanketing; and, instead of the caftan, he wears a cloak of sheep, wolf, or bear's skin, with the hair turned inwards. His hands are similarly protected by shaggy gloves,

which tie up four fingers together, allotting a separate division to the thumb; and his feet by lined boots coming up to the knees. A flowing beard and long *moustaches* form a natural guard to the lower part of the face, so that the eyes and nose alone are exposed.

The dress of the higher order of Russians resembles that of similar classes among other European nations. In winter, they, like the peasants, are furnished with stout cloaks lined with fur, but of superior quality and foreign manufacture. In the selection of fur the Russian gentlemen are very particular. Fifteen or twenty-five pounds is a price not uncommonly paid for a single collar. The ladies follow French fashions; while the lower class of women differ little in appearance from those of Finland, except that they tuck up their hair; and many wear caps richly ornamented with gold.

Thus equipped, a Russian walks or rides on a sledge, almost unconscious of cold, though cutting rapidly through a bleak wind when the thermometer shows fifty degrees of Fahrenheit below freezing point. The only object of solicitude is his nose. This is occasionally frost-bitten. Having lost all sensation in that part, the sufferer is made acquainted with the accident by some person, who observes its natural color to be changed. He immediately rubs his nose with snow, which imparts some of its own heat to the flesh previously reduced to the temperature of the air. This, together with friction, restores circulation, and the nose is saved. If the remedy be not quickly applied, or if he approach the fire, the part mortifies and falls off. The same observation applies to the fingers and toes. Considering the intensity of cold in winter, and the multitude exposed to its influence, it is a

matter of surprise that so few are seen with mutilated members.

Novel Species of Street Pavement.—A gentleman lately in St. Petersburg has described to us a new and ingenious mode of paving streets successfully tried in that capital. Instead of wrought stones or Macadam's gravel, (both of which are in use there) the Russians have employed blocks of wood, we presume hard wood, set on end. They are a foot long, by eight or nine inches broad, and are cut into hexagons, which are closely joined and fitted to each other. When seen from a window in the second or third story, they present a regular and beautiful tessellated surface, like the inlaid oak floors seen in old houses. The carriages, which, from their heaviness and the smallness of their wheels, make an intolerable noise on the wrought stone pavement, pass over the blocks of wood as quietly as if they rolled on a carpet. Dear as timber is in cities, we think it surprising that this sort of causeway has never been tried in London, and other large places where the ordinary materials for stone paving are brought from a distance at a great expense.

Ice.—A writer in a New York paper gives the following as the best mode of constructing an ice-house that will keep ice through the season. It has been usually thought that the edge of a declivity was the only place for an ice-house, but if the following method is really adequate to the end, no matter how level a piece of ground is chosen for the purpose.

It must be a tight frame building, and *above* ground, the four sides of which should have an inside lining, fifteen inches apart, the intermediate space filled with tan; the floor, which should be dry ground, covered with the same material to the depth of about fifteen inches: the attic should have a board flooring, with a scuttle door for entrance, also covered with tan, say about five to six inches: over the whole, a good *tight* roof, with an entrance to the attic through the gable end.

"Keep your Eyes Open," says the *Young Man's Guide*, a volume recently published in this city. And is not the advice worth attending to? It is said that Miss Herschel, while amusing herself in looking at the heavens through Sir William Herschel's telescope, discovered at different times a variety of comets, which might otherwise have passed *unnoticed*. Surely, the *world of science* has been greatly benefitted by *her* keeping *her eyes open*.

MUTATIONS OF THE ALPHABET.

Lesson in Arithmetic—Explanation—Changes of the nine digits—Of the twenty-six letters—Startling results—Moral reflections.

As this volume may be often used in schools, it is but fair that we should give out an exercise in arithmetic, occasionally, for the older children in schools and families.

In many schoolbooks on arithmetic there is a rule laid down by the name of Permutation of Quantities. It is a mode of ascertaining how many different ways any given number of things can be so changed, as to stand, at every change, in a different position with respect to each other.

Thus the figures 1, 2, and 3, may stand in six different ways with respect to each other; as follows.

1st.———1. 2. 3
2d.———1. 3. 2
3d.———2. 1. 3
4th.———2. 3. 1
5th.———3. 1. 2
6th.———3. 2. 1

The number increases surprisingly at the addition of every figure; for though 1, 2, and 3, are susceptible of but six mutations or changes, 1, 2, 3 and 4, can be changed twenty-four times; and 1, 2, 3, 4, and 5, no less than 120. The nine digits can be changed 362,880 times.

The same is true of anything else, as well as the nine digits. Take the twenty-six letters of the English Alphabet, for example. We find, in the same manner, that *a*, *b*, and *c*, are susceptible of the six following mutations.

a	b	c		b	c	a
a	c	b		c	a	b
b	a	c		c	b	a

We will also give you the changes of the first *four* letters of the Alphabet.

a	b	c	d	c	a	b	d
a	c	b	d	c	a	d	b
a	b	d	c	c	b	a	d
a	d	b	c	c	b	d	a
a	d	c	b	c	d	a	b
a	c	d	b	c	d	b	a
b	a	c	d	d	a	b	c
b	c	a	d	d	a	c	b
b	d	a	c	d	b	a	c
b	c	d	a	d	b	c	a
b	d	c	a	d	c	a	b
b	a	d	c	d	c	b	a

All this is plain; and there is nothing very startling about it. But when we come to ascertain the changes of which a much larger number of letters or figures is susceptible, the results are more surprising. The number of changes any given number of things will undergo, is found by multiplying all the terms of the given series of numbers continually into each other.

Thus 1 the first of the series,
is multiplied by 2 the second of the series,

and the product 2
by 3 the third of the series, &c.

6

If we have made no mistake in multiplying, the mutations or changes of the twenty-six letters of the Alphabet are no less than 139,421,257,797,501,000,840,000,000. Now suppose these changes all to be made out, as we have made out those of the first three or four, and those letters, either printed

er written, were so placed that each should take up no more space than the $\frac{1}{100}$ part of a square inch, which would be somewhat more close than the printed lines of this page. As the square inches in a square yard are 1,296, this number, multiplied by 100, would give the number of letters which would stand on a square yard, viz. 129,600. Divide the whole number of changes of the alphabet, by this last number, and you have a quotient of 1,075,781,310,165,902,784,259; the number of square yards of space which these changes would require. But the whole earth's surface is said to contain no more than 617,197,435,008,000 square yards; and if so, it would require 1,759,213 such globes as this, on which to write all the changes of the twenty-six letters of the alphabet!

We confess that we are almost startled at the result, ourselves; and we beg our readers, in the schools, to repeat the process, and see if we have made no mistake. A very small mistake, only, in the early part of the process, would lead us very far from truth in the end; just as a small departure from the path of virtue, in early life, may lead us—*we know not whither*—before we are old.

There is one moral consideration to which this subject may lead us, independent of its value as a lesson in arithmetic. Many have wondered that among so many millions of the human race, there should be so few whose features are exactly, or nearly alike. Now it seems to us wonderful, on the contrary, that we see so many striking resemblances. Think of the various parts, if we may so say, which go to make up a face! Why, there are vastly more of them than of the letters of the alphabet. Then why should we not expect as many mutations?—Think of the shades of the complexion,

the eyes, and the hair; the many forms and relative distances of the eyes, eyebrows, cheekbones, nostrils, lips, &c; the various forms of the chin, and various degrees of prominence of the different muscles of the face,—which last are very numerous;—and shall we not wonder, rather, that any law of the Creator should bring the features to resemble each other as much as they often do in families? If chance gave direction, (for even chance is subject to laws) should we ever witness any such results?

WHAT IS TO BE DONE?

We have shown, in a former article, that after all our boasting, the elementary instruction of the great mass of the people is far better attended to in the Prussian *monarchy*, than in this American republic; and we have more than intimated that in view of such facts, we ought as a nation, at least, to blush for shame. We have also hazarded an opinion that the state of education in the United States will not be materially improved till we are cured of our self-conceit.

But how is this cure to be effected?—We know of but one way that promises success, and even that is sufficiently discouraging. We must state the case, and present facts; and repeat them, with untiring perseverance, till people believe. The first step to knowledge, is to be convinced that we are ignorant,—just as the first step to virtue, is to know our defects.

There was a time when it was thought we were quite a *temperate* people. At length it was found that we had tens of thousands of drunkards among

us; and hundreds of thousands who were in the daily use of those alcoholic drinks with which all drunkards begin their downward course. Wise men became alarmed, and presented the subject again and again, and told their stories over and over, till they began to gain hearers and believers. And we know the consequence. We became, in this respect, a little less conceited; and then effective measures were taken to prevent so much mischief in the next generation.

We trust that the obvious superiority of the Prussian Schools to our own, will dispel the conceit and bring down the "lofty looks" of not a few of our citizens; at least we *hope* so. This is one thing. If, in addition, somebody would take the trouble to prove by undeniable facts, that other portions of the globe have as rich a soil, as healthy an atmosphere, as bright a sun, and as industrious, virtuous, and happy a population, as the United States have;— and would reiterate the statement till people believed it, something would be done towards a radical cure of our national distemper. This result might at least be hoped, if we could induce people to remit their money getting efforts long enough to think of consequences. It is not enough to assent that certain things are so, and in the next breath give ourselves up slaves to appetite, and above all to avarice. We must be converted as well as convinced.

It is in this view that we wish to make these little volumes the vehicle, at least occasionally, of such facts and appeals as may be likely to remove the apathy of our readers in regard to common education; as well as to hint at what we conceive ought to be done. For we have not a reader, let him be who he may, who ought to re-

main indifferent on this great subject. Every one has either brothers, sisters, children, neighbors, or fellow citizens; and is interested, or ought to be, to put forth his hand in the work of reform. Every individual, of every family in the land, has his sphere of influence, and consequently his field of action.

The various duties of the various classes of the people whom we address, will afford us ample scope for remark in future papers. What we say, however, will be said on the presumption that for the time at least, we have banished undue self-esteem, and are ready to *do* as well as *say*. We have had enough of mere cold assent, on this subject. We want action, effective, well-directed, continued action; and to this end we must feel, if the expression is allowable, our apathy. "Seest thou a man wise in his own conceit? (said a warm friend of common education, 3000 years ago,) There is more hope of a fool than of him."

ANIMAL AND VEGETABLE FOSSILS.

It is well known that both vegetable and animal substances when they have been long buried in the earth, sometimes become petrified; *that is*, changed into earthy or metallic substances. The process is slow, however. At first the body appears to be penetrated with here and there a few particles only of earth or metal; but in general, after a long period has elapsed the whole mass becomes petrified. How far the process had gone in the following instances, we do not know; nor are we quite prepared to vouch for the correctness of the statements; though there is reason to believe them correct.

Fossil Reptiles.—Near Woodstock, Eng., in calcareous slate, the remains of the *Megalosaurus*, a gigantic animal, intermediate between the crocodile and monitor, have been found, *forty feet in length*. The *Iguanodon*, another monstrous lizard, supposed to be upwards of sixty feet long, has been excavated from the iron sand of Tilgate forest. These differ very essentially from any species of reptiles now in existence. There was a time, in the history of our globe, when lizards, of enormous dimensions, seem to have had the entire possession of the earth. Upon their extinction, succeeded the creation of the present races of animals.

Fossil Vessel.—The *Fossil Ship* lately discovered bedded in the earth at New Romney, on the Coast of England, has greatly excited the public curiosity. The earth has been removed so that the whole shape and form of the vessel may be inspected. It is fifty-four feet long by twenty-four wide, "clinker built and trunnel fastened," having only one mast. Skulls and bones, human and brute, have been found on board, and, according to account, pieces of rope retaining the smell of tar. Many of the timbers are solid, and when cut with a saw, are as firm as newly used wood. Various conjectures, as to the time of the loss of this vessel have been started, based upon comparisons and analogies. An account drawn from historical annals, dates it in the month of October, 1250, in the reign of Henry the third. At that time a violent storm occurred; the shipwreck of numerous vessels is mentioned, and among them the "swallowing up" of several by the waves, at this spot. If this be correctly traced, this fossil ship has reappeared after being buried nearly *six hundred* years.

THE CHESTNUT TREE.

Where found—Its use—Durability—Size—Anecdote.

This tree is a native of Asia, but it has been transplanted into various countries; and is now found in all the mountainous parts of the south of Europe, and in most parts of the United States

The chestnut tree is very ornamental, when growing, and it makes excellent timber. It is found to be more durable for posts and fences than oak; but the timber of young trees is much more durable than that of old ones. A gate post of young chestnut has lasted fifty-two years, and the timber of a barn, when kept well covered, has remained sound for fifty years. They grow rapidly. The writer of this article is acquainted with one tree, from a foot to a foot and a half in diameter, which thirty years ago was not in existence.

The fruit of the chestnut is very nutritious, especially when boiled. Swine fatten on it. But this species of nut is much richer in some countries than in others. It is said to be peculiarly excellent in the south of France, and Spain, and in Corsica It is stated that in Corsica and a few of the French provinces, it constitutes the principal food of the poorer people. Some of the French even make chestnuts into cakes, puddings, and bread. The best kind of chestnuts are grafted.

This tree attains an enormous size in every country. In the United States, however, it is seldom more than twenty feet in circumference, but in England it has been known to exceed forty, and in one instance fifty. It also lives to a very great age.

Although these trees grow to a very large size in England, there are several of them on Mount Etna, which, if we can credit the accounts of Brydone and other travellers, are of an enormous size. One of them is 200 feet in circumference. It is called the *Castagno dei centi cavalli*, or ' chestnut of a hundred horses.' It is found marked in an old map of Sicily, near a hundred years old; hence its age must be considerable. It is true, it does not

appear like a single tree, but like a bush of five large branches, growing together. But it is the opinion of travellers, and the tradition of the country, that these were all once united in a single stem. It is said that an ecclesiastic was once at the expense of digging into the earth, when he found all these stems united just below the surface. If it was once really united, it constituted a phenomenon in the vegetable world, and was the king of the forest.

DISEASED THIRST.

It is stated by the New Bedford Courier, that there is now living, in North Fairhaven, a Mr. Webb, about forty years of age, who is in the strange habit of *drinking one or two quarts of cold water at a draught*. It is even stated that without large quantities of it he is feverish and dizzy, and feels a burning throughout the system, especially at the stomach; and that three hours' abstinence will induce excruciating pain. He is said to drink by night and by day, at an average rate of six gallons in twenty-four hours. He has been addicted to this diseased habit ever since his remembrance; and except in this respect, enjoys vigorous health.

It is also stated that this morbid thirst was not caused by imprudence.—Perhaps not. It is probable, however, that it *had* a cause, more or less early, though it may not be possible to trace it There can be no doubt that the stomach can be, and often is trained, by commencing early, to demand an astonishing quantity, both of food and drink, at one time, and to be unsatisfied without it

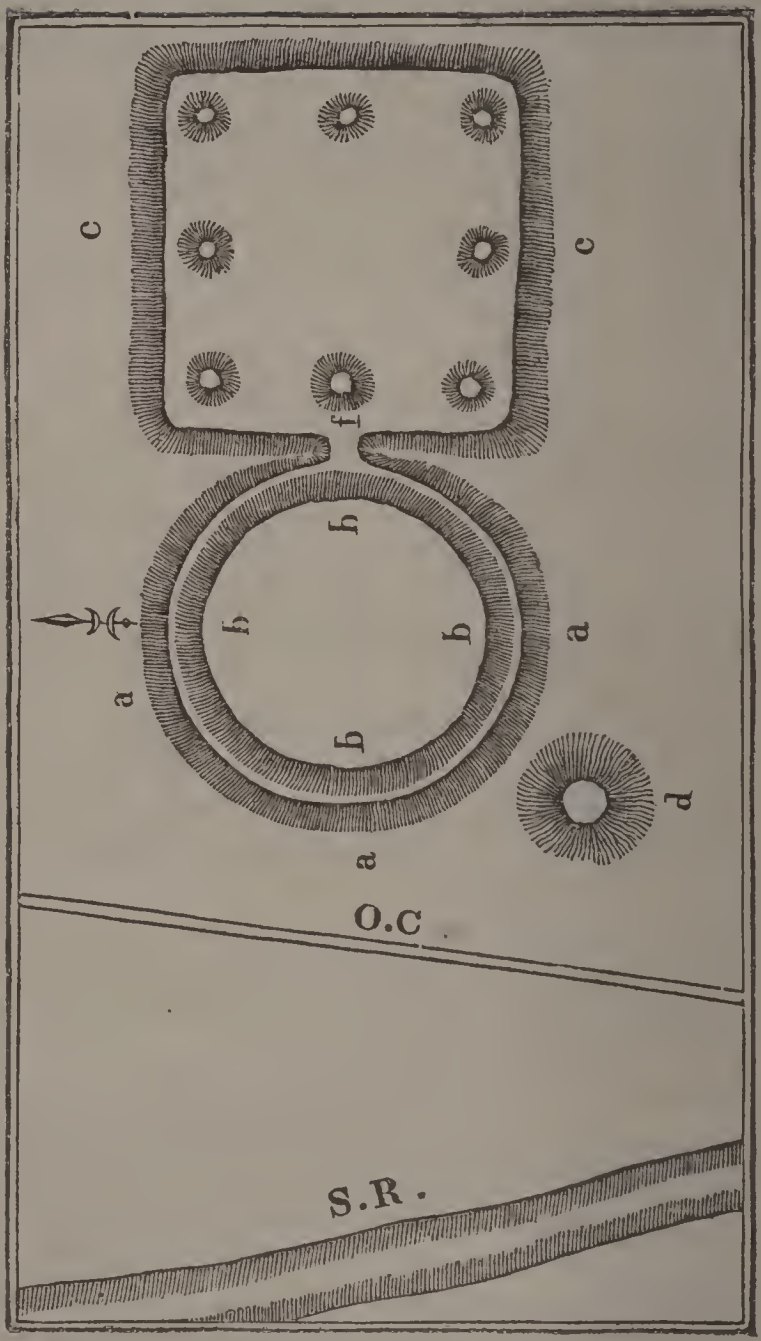
We might safely go further, and account for the practice so loudly complained of by moralists, philosophers, and Christians—especially by physicians—that mankind generally eat about twice as much as nature requires, on the same principle; viz. on account of a diseased habit, early induced.

ANCIENT MOUNDS AT THE WEST.

Our western and southwestern country is full of antiquities. Some of them are evidently the remains of old fortifications; others the graves of the dead. The latter are large piles of earth, or mounds. We know of no volume which would be better received by the American people, than a full and correct account—one on which they could implicitly rely—of these antiquities.

The old fortifications are various in their structure, and were probably built by different tribes of people. When, or by whom, is uncertain. They must have been farther advanced in civilization than our present Indians, as we know by the vessels, implements, coins, &c. which are occasionally found. Some of the articles which are dug up, and some of the walls, &c. of the old forts, seem to have required the use of iron tools. But the whole subject is, as yet, involved in much obscurity.

Sometimes the mounds we have mentioned, are found in connection with old fortifications, and sometimes they are separate from them. A most


c
c
f
b
b
b
b
a
a
a
d
O.C
S.R.

remarkable fort, enclosing some of these mounds, is found at Circleville, Ohio. Mr. Hamlin, a traveller, has described it in the Christian Advocate and Journal, and given a drawing of it, of which the above is a pretty exact imitation.

S. R. stands for Scioto River; O. C. Ohio Canal.

a a—is the outer embankment of the circular fort, varying from 5 to 15 feet in height.

b b—the inner embankment, varying from 5 to 10 feet in height, formed of clay, although no other clay is found within three miles of the spot.

c c—the embankment of the square fort, from 5 to 15 feet high adjoining the circular fort, with which it communicates by the gateway or opening, f. The square fort contains, say from 6 to 8 acres.

d—the large mound, full of human bones, said to be 100 feet in height, and of vast size, the ascent being gradual.

The small spots, resembling that at d, are also small mounds from 4 to 8 feet high, opposite each of which there is an opening in the embankment.

On the southeast part of the circular embankment is an oak stump, three feet in diameter.

The same traveller also gives the following curious facts, in relation to this great subject, which he says he collected from various sources. The statements, we think, may be relied on.

Twelve miles west of Chillicothe, on Paint creek, there are the remains of a furnace, 10 or 12 feet square, of rough stone, surrounded by cinders, and trees of full size near it. There are seven wells on one acre, regularly walled up with hewn stone, most of them partially filled. Eight miles farther up the creek a small bar of gold was taken out of a mound, which sold in Chillicothe for $12. A piece

of a cast iron vessel was taken out of the circular embankment in Circleville. There was said to be taken from the road near Circleville a piece of a red flint vessel. The manufacture was fine, and equal to any thing of modern date in point of neatness, likewise, from the large mound, a copper coin. It was dug up beneath the roots of a hickory tree, seven feet eight inches in circumference. Blacksmiths' cinders are said to have been dug out of the embankment. In removing a mound in Chillicothe there was found a piece of finely worked copper.

On the Little Miami, about four miles above Waynesville, on opening a spring, the workmen struck upon a regular stone wall. In digging a well in the village of Williamsburg, on the east fork of Little Miami, the workmen came to a fireplace, charcoal, and brands, at the depth of 25 or 30 feet. Thirty miles above Williamsburg, on the same stream, there is said to have been a well found, regularly walled up, three feet in diameter. On removing the clay of the mound in Franklinton, was found what appeared to be a weight, of copper, weighing one and a half pounds. Two stumps were found 60 or 70 feet under ground, in Cincinnati. A thin circular piece of copper, alloyed with gold, was found in a mound last year in the same place.—Earthen ware is found in various places, some of the jars capable of containing two or three gallons, especially in burying places.

These mounds are more or less numerous throughout the great Mississippi valley. They all contain bones, either partially or wholly decomposed, though in some instances all that remains is only a chalky substance. It has been stated, we know not on

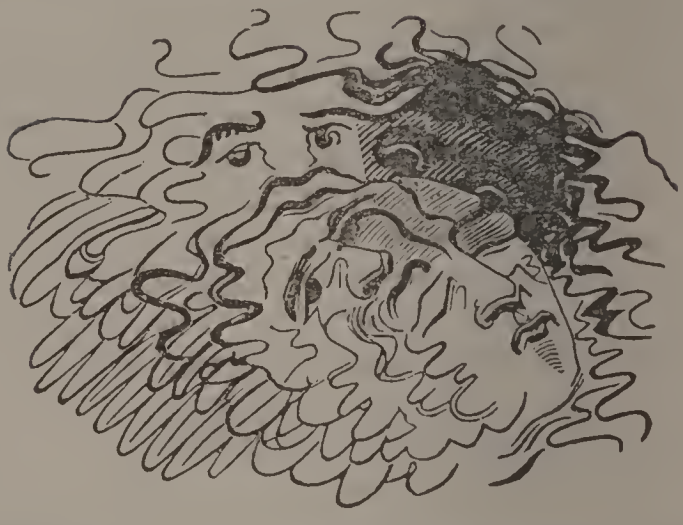
what authority, that the skulls which are found strongly resemble those found in Peru.

It is remarkable that these burying places exhibit no trace of tools. They are merely regular piles of earth, without brick or stone, and are commonly situated in wet plains and prairies. There is one near Wheeling, 70 feet in height, 30 or 40 rods in circumference at the base, and 180 feet at top. There is a numerous group near Cahokia, Illinois, said to be, in all, about 200. The largest of them is in the form of a parallelogram, or long square It is 80 yards in circuit, and about 90 feet high.

Perhaps it may not be familiar to our readers, that the custom of raising large heaps of earth over the graves of the dead has prevailed in many other countries besides America. These heaps are often called *Tumuli*, or *Barrows*. Homer mentions them. They were known to the Athenians, and to the Scythians. Among the latter, the height of the mound was proportioned to the rank of the person whose memory they meant to honor by it. They were raised, especially, over the bodies of their kings. The deserts of Tartary are full of these mounds. One which was opened is said to have contained two corpses, wrapped in two sheets of gold, which weighed 40 pounds.

There is one of these mounds in Ireland which covers two acres of land, is 70 feet high, and 100 feet in diameter at the top. It contains within it a cave 20 feet square and $11\frac{1}{2}$ feet in height, and a gallery leading to it 62 feet long. The cave contains ashes, arms, spears, swords, shields, bracelets, beads, mirrors, combs, and hair pins. These mounds also abound in Denmark, Sweden, Lower Saxony, South Africa, New Caledonia. and New Holland.

PICTURE OF A DREAM.



In this figure, a medley of human faces, wherein certain features belong, in common, to different visages,—the eyebrow, for example, forming the mouth of another—Hood, in his "whims and oddities," has successfully tried to typify a common characteristic of dreams; viz. the entangling of various ideas, which, to the waking mind are distinct, but which are, by the confusion of sleep, inseparably ravelled up, and knotted into Goredon intricacies. For as the equivocal feature, in the emblem, belongs, indifferently, to either countenance, but is appropriated by the head that happens to be the present object of contemplation; so, in a dream, two separate notions or ideas, will mutually involve some convertible incident, that becomes, by turns, a symptom of both in general, or of either in particular. Hence arise the most extravagant associations of thoughts and images,—unnatural connexions, like forbidden relationships, where mothers become cousins to their own sons or daughters, and quite as bewildering as such genealogical embarrassments.

BIRDS' NESTS,—Page 301.

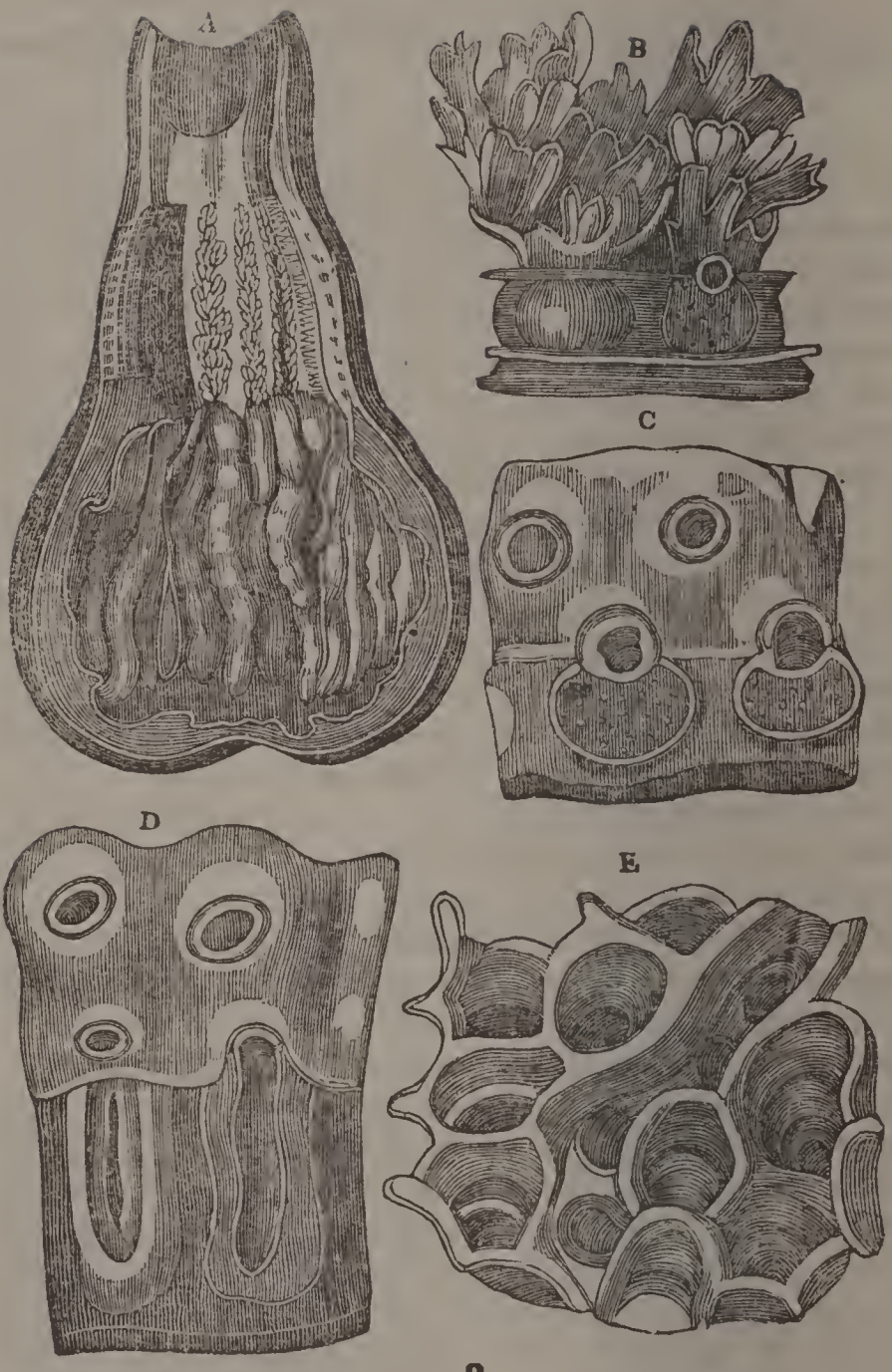
ANATOMY AND ARCHITECTURE OF BIRDS.

Many varieties of the swallow are found in America, and their history is one of peculiar interest. Our present remarks will, however, be confined to a species not found in this country, but principally on the southern shores of Asia, and commonly known by the name of the esculent swallow, from the circumstance that their nests afford a rare dainty for the table.

There is some confusion among natural historians both in regard to the description and character of the bird itself, and the nature of the material from which it forms its nest. Fig. 1, represents the bird and its nest according to one traveller; fig. 2, according to another. But the greatest difference of opinion is in regard to the material of the nest. Some maintain that it consists principally, if not entirely, of a kind of foam or spray, gathered from the sea shore, but to this opinion it is objected that they do not always build near the sea. Others suppose that it consists of the saliva, or a mixture of it, and others of a peculiar substance furnished from the glands of the stomach.

Those who hold to the latter opinion endeavor to support their views by arguments founded on a difference of structure in the internal surface of the stomach. To show by comparison, this difference, is the object of fig. 3. But there are obvious differences between the internal surfaces of this organ in many otner birds, where no striking difference of character has ever been suspected.

For ourselves, we incline strongly to the opinion



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that these nests are formed either from the saliva of the swallow, or from a mixture of that with some other substance.

The earliest modern account of these edible nests, is given by a traveller, as follows. "On the sea coast of the kingdom of China a sort of small party-colored birds, of the shape of swallows, at a certain season of the year, namely, their breeding time, come out of the midland country to the rocks, and from the foam or froth of the sea water, dashing and breaking against the bottom of the rocks, gather a certain clammy, glutinous matter —perchance the sperm of whales or other fishes— of which they build their nests, wherein they lay their eggs and hatch their young. These nests the Chinese pluck from the rocks and bring them in great numbers into the East Indies to sell; which are esteemed by gluttons great delicacies, who, dissolving them in chicken or mutton broth are very fond of them, preferring them far before oysters, mushrooms, or other dainty and liquorish morsels." —With the exception of the writer's opinion in regard to the source whence the material of these nests is obtained, perhaps this is as good a description as can be given. Of their commercial history the following account is selected. The best nests, are those obtained in deep, damp caves, and such as are taken before the birds have laid their eggs. The coarsest are those obtained after the young have been fledged. The finest nests are the whitest; that is, those taken before

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Reference to the plate.

A. Gullet and gizzard of the Java Swallow, laid open.
B. Glands in the lower gullet, magnified 225 times.
C. Same glands in the common Swallow.
D. Same glands in the Blackbird.
E. Similar glands in the Human Stomach, magnified 900 times

the nest has been rendered impure by the food and filth of the young birds. The best are white, and the inferior dark-colored, streaked with blood, or intermixed with feathers. Birds' nests are collected twice a year; and, if regularly collected, and no unusual injury be offered to the caverns, will produce very equally; the quantity being very little, if at all, improved by the caves being left altogether unmolested for a year or two. Some of the caverns are extremely difficult of access, and the nests can only be collected by persons accustomed from their youth to the office.

The most remarkable and productive caves in Java, are only to be approached by a perpendicular descent of many hundred feet, by ladders of bamboo and rattan, over a sea rolling violently against the rocks. When the mouth of the cavern is attained, the perilous office of taking the nests must often be performed with torch-light, by penetrating into recesses of the rock, when the slightest trip would be instantly fatal to the adventurers, who see nothing below them but the turbulent surf making its way into the chasms of the rock.

The only preparation which the birds' nests undergo is that of simple drying, without direct exposure to the sun, after which they are packed in small boxes, usually of a picul or 135 pounds. They are assorted for the Chinese market into three kinds, according to their qualities, distinguished into first or best, second, and third qualities. Caverns that are regularly managed will afford, in 100 parts, $53\frac{3}{10}$ parts of those of the first quality, 35 parts of those of the second, $11\frac{7}{10}$ parts of those of the third. The common prices for birds' nests at Canton are, for the first sort, 3,500 Spanish dollars the picul, or 5*l.* 18*s.* $1\frac{1}{2}d.$ per

pound; for the second, 2,800 Spanish dollars per picul; and, for the third, no more than 1,600 Spanish dollars.

Of the quantity of birds' nests exported from the Indian islands, although we cannot state the exact amount, yet from Java there are exported about 200 piculs, the greater part of which is of the first quality. The greatest quantity is from the Suluk Archipelagos, and consists of 530 piculs From Macassar there are sent about 30 piculs of the fine kind. Taking the quantity sent from Batavia as the estimate, we know that this is conveyed by 5,300 tons of shipping, and, therefore, the whole quantity will be 1,813 piculs, as the whole quantity of Chinese shipping is 30,000 tons. In the Archipelago, at the prices already quoted, this property is worth 1,263,519 Spanish dollars, or 284,290*l.* The value of this immense property to the country which produces it, rests upon the capricious wants of a single people.

The caverns of Karang-bolang, in Java, annually afford 6,810 lbs. of nests, which are worth, at the Batavia prices of 3,200, 2,500, and 1,200 Spanish dollars the picul, for the respective kinds, nearly 139,000 Spanish dollars; and the whole expense of collecting, curing, and packing, amounts to no more than 11 per cent. on this amount.

The price of birds' nests is of course a monopoly price, the quantity produced being by nature limited, and incapable of being augmented. The value of the labor expended in bringing birds' nests to market is but a trifling portion of their price, which consists of the highest price which the luxurious Chinese will afford to pay for them, and which is a tax paid by that nation to the inhabitants of the Indian islands. There is, perhaps, no

production upon which human industry is exerted, of which the cost of production bears so small a proportion to the market price.

TOBACCO, AND SNUFF TAKING.

Chewing. The only plea for chewing this noxious plant, which is entitled to a serious consideration, is, that it tends to preserve the teeth. This is the strong hold of tobacco chewers — not, generally, when they commence the practice, but as soon as they find themselves slaves to it.

Now the truth appears to be this:

1. 'When a tooth is decayed in such a manner as to leave the nerve exposed, there is no doubt that the powerful stimulus of tobacco must greatly diminish its sensibility. But there are very many other substances, less poisonous, whose occasional application would accomplish the same result, and without deadening, at the same time, the sensibilities of the whole system, as tobacco does.

2. The person who chews tobacco, generally puts a piece in his mouth immediately after eating This is immediately moved from place to place, and not only performs, in some measure, the offices of a brush and toothpick, but produces a sudden flow of saliva; and in consequence of both of these causes combined, the teeth are effectually cleansed; and cleanliness is undoubtedly one of the most effectual preventives of decay in teeth yet known. Yet there are far better means of cleansing the mouth and teeth after eating than by means of tobacco.

Smoking. Smoking is indecent, filthy, and rude, and to many individuals highly offensive. When

first introduced into Europe, in the 16th century, its use was prohibited under very severe penalties, which in some countries amounted even to *cutting off the nose.* And how much better is the practice of voluntarily burning up our noses, by making a chimney of them? The German physiologists compute, that of twenty deaths, between eighteen and thirty-five years, ten originate in the waste of the constitution by smoking.

This is indeed a horrid picture; but when it is considered that the best estimates which can be made concur in showing that tobacco, to the amount of $16,000,000, is consumed in the United States annually, and that by far the greater part of this is in smoking cigars, there is certainly room for gloomy apprehensions. What though we do not use the dirty pipe of the Dutch and Germans? No parent ever teaches his child the use of tobacco, or even encourages it, except by his example. Thus the smoker virtually condemns himself in the very 'thing which he alloweth.' It is not precisely so in the case of spirits; for *many* parents directly encourage the use of that.

Tobacco is one of the most powerful poisons in nature. Even the physician, some of whose medicines are so active that a few grains, or a few drops, will destroy life at once, finds tobacco too powerful for his use; and in those cases where it is most clearly required, only makes it a last resort. Its daily use, in any form, deranges, and sometimes destroys the stomach and nerves, produces weakness, low spirits, dyspepsy, vertigo, and many other complaints. These are its *immediate* effects.

Its remoter effects are scarcely less dreadful. It dries the mouth and nostrils, and probably the brain; benumbs the senses of smell and taste, im-

pairs the hearing, and ultimately the eye-sight. Germany, a *smoking nation*, is at the same time, a *spectacled* nation. More than all this; it dries the blood; creates thirst and loss of appetite; and in this and other ways, often lays the foundation of intemperance. In fact, not a few persons are made drunkards by this very means. In addition to all this, it has often been observed that in fevers and other diseases, medicines never operate well in constitutions which have been accustomed to the use or tobacco.

Of the expense which the use of it involves, I have already spoken. Of the $16,000,000 thus expended, $9,000,000 are supposed to be for smoking Spanish cigars; $6,500,000 for smoking American tobacco, and for chewing it; and $500,000 for snuff.

Taking snuff. I have seen many individuals who would not, on any account whatever, use spirits, or chew tobacco; but who would not hesitate to dry up their nasal membranes, injure their speech, induce catarrhal affections, and besmear their face, clothes, books, &c, with *snuff*. This, however common, appears to me ridiculous. Almost all the serious evils which result from smoking and chewing, following the practice of snuffing powdered tobacco into the nose.

Naturalists say there is one species of maggot fly that mistakes the odor of some kinds of snuff for that of putrid substances, and deposits its eggs in it. In warm weather therefore, it must be dangerous to take snuff which has been exposed to these insects; for the eggs sometimes hatch in two hours, and the most tremendous consequences might follow. And it is not impossible but that some of the most painful diseases to which the

human race are liable, may have been occasionally produced by this or a similar cause. The *tic douloureaux* is an example.

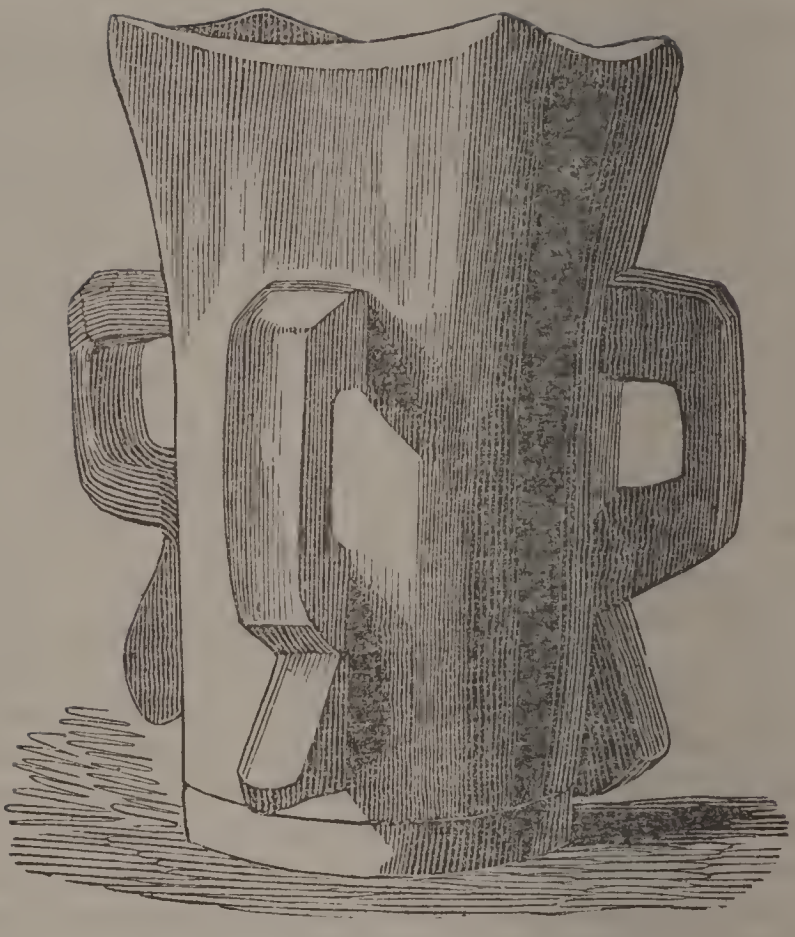
A very common disease in sheep is known to be produced by worms in cavities which communicate with the nose. Only a little acquaintance with the human structure would show that there are a number of cavities in the bones of the face and head, some of which will hold half an ounce each, which communicate with the nose, and into which substances received into this organ occasionally fall, but cannot escape as easily as they enter.

ANCIENT IRISH DRINKING CUP, OR METHER.

Some of our readers may have heard of the ancient Irish drinking cup, called the Mether, now gone into disuse, or only to be found in the remotest mountain wilds of the country.

The engraving is a representation of one of these cups which was found in a bog, in the county of Armagh. It is of the usual form and proportions, round at bottom, but quadrangular at top, and with a handle on each of its four sides. The material is crab tree. Its height is $7\frac{1}{2}$ inches, and its circumference $10\frac{1}{2}$ inches; and it holds about three pints. This specimen is, as we have already remarked, the usual size and form of the Mether; but it is sometimes found much larger, and occasionally with only two handles. The use of the four handles appears evidently to have been for the greater convenience of passing the cup round from one to another.

The use of the Mether appears to have been universal in Ireland, for it is found in the bogs in



all parts of the island; and judging from the depth at which it is often discovered, its antiquity must be extreme indeed.

BURNING WATER.

In the progress of our chemical studies, we have more than once expected that the time would arrive, in the history of our world, when mankind would discover the art of producing light and heat by the combustion of water; and of applying the

discovery to culinary purposes. If common human testimony is admissible in this case, we have reason to believe that an approximation is already made to such a discovery. Our own opinion was founded on the belief that wood, and even coal, must sooner or later fail to afford a supply; and that some very abundant resource from the mineral world must be looked for;—that water, whose component parts are two of the most combustible gases in nature, is every where abundant, and can already be decomposed by chemical processes; and that nothing was wanting but to learn the art of decomposing it at so cheap a rate that it could be appropriated to common use.

From a late number of Silliman's Journal, we learn, that Mr. Samuel Morey has been engaged in experiments, on this subject, more than *twenty years*, and that he has at last come to the following results. Mr. Silliman, himself, testifies to the correctness of his statements, in the second paragraph, and says, he "can see no reason why they should not prove of *great practical utility.*" Mr. Silliman is not easily duped, on such a subject.

Mr. Morey, after stating that he has tried *lamps*, *stoves*, and *machines*, in more than 4000 *different forms*, for effecting his object, thus remarks:

"An engine, with a power equal to that of driving a boat four miles an hour, and a rail road car twice that distance, in the same time, with ten or twelve passengers, may be made for $100; and that the engine with its preparing vessel, (a substitute for the boiler in the steam engine,) *need not weigh* 100 lbs,—and the expense of working it will not exceed *ten or twelve cents per hour.*—These facts have been *verified, practically and repeatedly*, before hundreds of people.

"Some recent improvements in the mode of constructing *lamps for burning water*, to produce light and heat, have perfected the operation for these purposes. It now carries demonstration in every form. For instance, when you put but one-fourth of a gill of spirits of turpentine into the lamp, and as much water, and raise the temperature to less than that of boiling water, the vapor that comes over will be in the ratio of about equal parts of each. If, in the combustion of these vapors, a due proportion of air is mixed and inflamed, it will in a few minutes boil a two-quart copper tea kettle. If small brass wire is brought over and in contact with the flame, it instantly drops in pieces—small copper wire is readily melted—fine iron wire, if the proportion be right, is instantly inflamed—and thin sheet copper, with a small piece of silver, or silver solder on it, with borax, being exposed to the flame, the silver melts in a few seconds, and the copper very soon: and this is done while the vapor is not concentrated in any way, and issues only with a velocity about the same as that of gas, in gas lights.

"This discovery gives every promise of supplying a much cheaper fuel, (as a fuel) exclusive of a clear saving of light, than any one now in use It is my intention to introduce my lamps, &c. into use, as soon as I conveniently can."

FLOWERS AND MUSIC,

IN A ROOM OF SICKNESS.

Once, when I looked along the laughing earth,
Up the blue heavens, and through the middle air,
Joyfully ringing with the skylark's song,
I wept! and thought how sad for one so young
To bid farewell to so much happiness.
But Christ hath called me from this lower world,
Delightful though it be.

THE MANGROVE.

The mangrove is a very remarkable tree, found in tropical climates, and sometimes as far north as thirty degrees of north latitude. It is said to be found occasionally in Florida. Its only congenial situation is in water, and on the banks of rivers where the tide flows. Instead of having a regular trunk, like most other trees, many long roots issue a little below the lowest branches of the tree, hang down into the water, and penetrate into the earth

This cluster of roots has the appearance of a number of arcades, from five to ten feet high, which serve to support the body of the tree. They are so closely intwined with each other, that they form a kind of natural terrace. The whole height of the tree is forty or fifty feet. It is an evergreen; and presents the most picturesque appearance.

The engraving represents the mangrove, with the seeds germinating on its branches. The following spirited description of it, from Dampier, will, we trust, be interesting to our readers.

"The red mangrove commonly grows by the seaside or by rivers and creeks. It always grows out of many roots about the bigness of a man's leg, some bigger, some less; which at about six, eight, or ten feet above the ground, join into one trunk or body, that seems to be supported by so many artificial stakes. Where this sort of tree grows, it is impossible to march, by reason of these stakes, which grow so mixed one among another, that I have, when forced to go through them, gone half a mile, and never set my foot on the ground, stepping from root to root. The timber is hard and good for many uses: the inside of the bark is red, and it is used for tanning of leather, very much, all over the West Indies."

The natural way of propagating these trees is to suffer the seeds which germinate among the main branches to take root in the earth. The most common method, however, is that of laying the small lower branches in baskets of mould or earth, until they have taken root. It is the mangrove which gave rise to the fable of oysters growing upon trees, since from its situation in the water it is a favorite resort of these shellfish, which cling to its branches, and have the appearance of growing from them.

The quantity of *tan*, or the tanning principle, which the bark of this tree contains, is very great. The method of separating it is curious, but our limits do not permit its insertion.

FATAL EXPERIMENT WITH A DIVING BELL.

"A little learning is a dangerous thing," it is sometimes said; and hence it has been strongly enjoined on mankind to "drink deep, or taste not." Now the maxim is true enough, if rightly interpreted; that is, a *superficial* knowledge of a subject may be, and sometimes is, dangerous, as we see from the following anecdote, from Herschel's Discourses on Natural Philosophy. *Thorough* knowledge, however, so far as we go, be our progress ever so trifling, can never be dangerous. No child is injured by understanding, thoroughly, the geography or history of his own town, if he never proceeds farther during his life.—But now for our story.

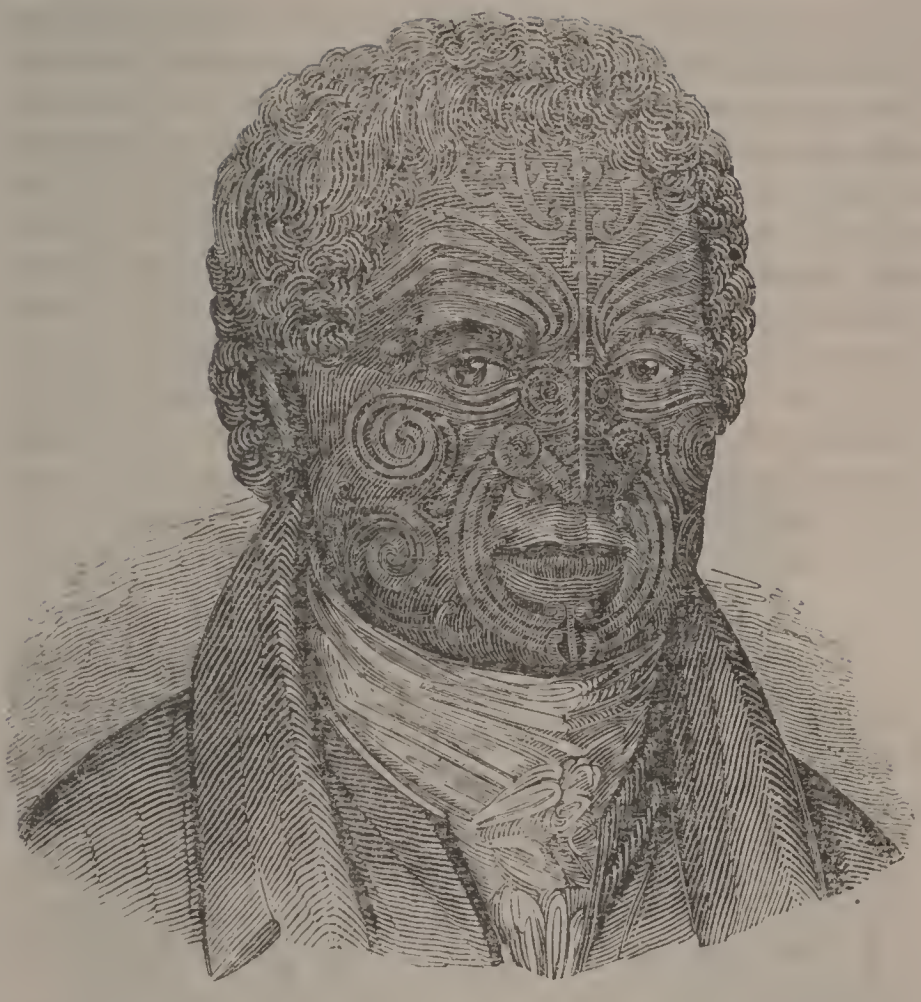
After the diving bell was invented, it was considered desirable to devise some means of remaining any length of time under water, and rising at pleasure, without assistance. Some years ago an ingenious individual proposed a project, by which this end was to be accomplished. It consisted in sinking the hull of a ship made quite water-tight, with the decks and sides strongly supported by shores, and the only entry secured by a stout trap-door, in such a manner, that, by disengaging from within, the weights employed to sink it, it might rise of itself to the surface. To render the trial more satisfactory, and the result the more striking, the proprietor himself made the first essay. It was agreed that he should sink in twenty fathoms water, and rise again without assistance at the expiration of twenty-four hours.

Accordingly having made all secure, fastened down his trap-door, and provided himself with all necessaries, as well as with the means of making signals to indicate his situation, this unhappy victim of his own ingenuity entered, and was sunk. No signal was made, and the time appointed elapsed. An immense concourse of people had assembled to witness his rising, but in vain: for the vessel was never seen more. *The pressure of the water at so great a depth*, had, no doubt, been completely under estimated, and the sides of the vessel being at once crushed in, the unfortunate projector perished before he could even make any signal.

TATTOOING.

How few nations there are who do not retain something of the savage custom of mutilating or disfiguring the human face, under the frivolous idea of improving its appearance, either for peace or for war! How small the number of individuals, even in a Christian country, who have come fully into the belief—practically—that the "face divine" best answers the purposes of Him who forms it, when it best preserves its originality!

That the American Indians and other savage nations—children in the universal family—that they whose *animality* has not yet been so far removed by intellectual and moral cultivation as to change the darkened surface to a brighter hue, should paint and patch the face, or hang jewels in the lips or ears, or beads and curls in other positions, is not so much to be wondered at. Nor is it surprising that those who are conscious of criminality in any of its more prominent forms, and yet retain a few straggling remains of conscientiousness,—for

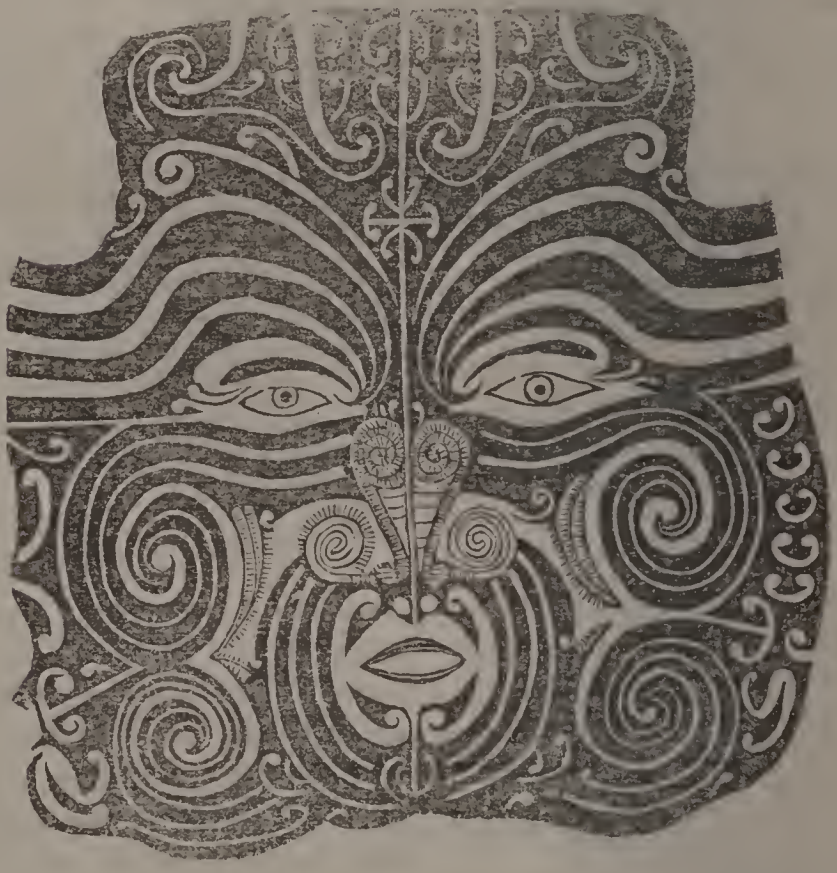


"The man who blushes, is not quite a brute;"—

should labor to hide their faces, in the hope of hiding their guilt or their shame. But why a mind and heart conscious of none but the most upright intentions, and guilty of no wrong conduct—we mean to a fellow being merely—should submit to be thus deformed and disgraced, is a question more difficult of solution.

The modes of tattooing differ among the different tribes of North America; but in all they are deemed as a preparation for war. In some instances the

object is to give them a more hideous appearance as enemies, and that fashion and those forms which best accomplish this leading object would, of course, be most likely to find favor. But in others it is regarded as a mark of mourning; and in others, still, it is designed for neither purpose. The women, even, in some instances, have been known to tattoo themselves.



But the practice is by no means confined to the savages of America; it prevails in other countries. It appears to have existed, also, in the ancient

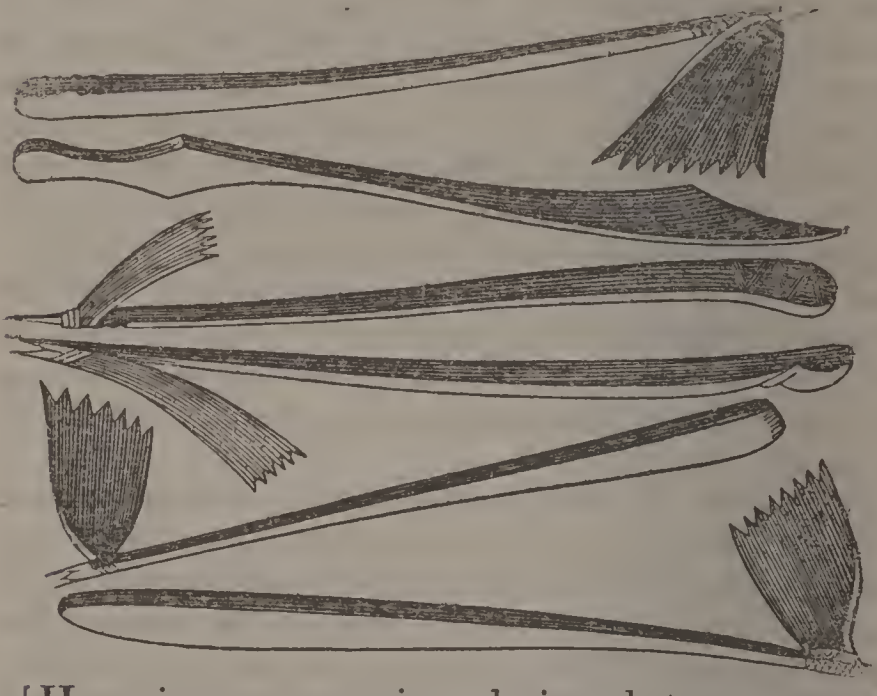
world. Moses, in the XIX chapter of Leviticus, forbids the practice among the Israelites, which indicates its prevalence among the surrounding nations. It prevailed, according to Herodotus, among the Thracians; and other authors mention it as common among the Scythians, the Assyrians, and even the ancient Britons. But nowhere, perhaps, has it been carried to a higher pitch of perfection than in New Zealand.

The first figure of the engraving represents the head of a New Zealand chief, by the name of Tupai Cupa, who once visited Great Britain, where a portrait was procured; of which the above is a copy. The second figure represents the same tattooing as the other, only on a larger scale. It is from a drawing made by the chief himself, and without the aid of a glass.

A traveller who submitted to this singular and barbarous rite, as practised by the people of New Zealand, thus describes it. He omits to state one thing, however, which is that before the cutting is begun, they trace, with a piece of burnt stick or red earth the intended figure.

"The whole of the natives having seated themselves on the ground in a ring, we were brought into the middle, and being stripped of our clothes, and laid on our backs, we were each of us held down by five or six men, while two others commenced the operation of tattooing us. Having taken a piece of charcoal, and rubbed it upon a stone with a little water until they had produced a thickish liquid, they then dipped into it an instrument made of bone, having a sharp edge like a chisel, and shaped in the fashion of a garden-hoe, and immediately applied it to the skin, striking it twice or thrice with a small piece of wood. This

made it cut into the flesh as a knife would have done, and caused a good deal of blood to flow, which they kept wiping off with the side of the hand, in order to see if the impression was sufficiently clear. When it was not, they applied the bone a second time to the same place. They employed, however, various instruments in the course of the operation; one which they sometimes used being made of a shark's tooth, and another having teeth like a saw. They had them also of different sizes, to suit the different parts of the work."



[Here is an engraving designed to represent some of the principal instruments which they use in tattooing.]

"While I was undergoing this operation, although the pain was most acute, I never either moved or uttered a sound; but my comrades moaned dreadfully. Although the operators were very quick and dexterous, I was four hours under their hands; and

during the operation the chief's eldest daughter several times wiped the blood from my face with some dressed flax. After it was over she led me to the river, that I might wash myself (for it had made me completely blind,) and then conducted me to a great fire. They now returned us all our clothes, with the exception of our shirts, which they kept for themselves, wearing them, as we observed, with the fronts behind. We were now not only tattooed, but what they called *tabooed*, the meaning of which is, made sacred, or forbidden to touch any provisions of any kind with our hands. This state of things lasted for three days, during which time we were fed by the daughters of the chiefs, with the same victuals, and out of the same baskets, as the chiefs themselves, and the persons who had tattooed us. In three days, the swelling which had been produced by the operation had greatly subsided, and I began to recover my sight; but it was six weeks before I was completely well. I had no medical assistance of any kind during my illness; but the chief's two daughters were very attentive to me."

The New Zealanders appear to possess an art which comes very near the ancient Egyptian art of embalming. We have seen the embalmed head of one of their chiefs, which, except that the brains were removed, was in a state of entire preservation; and the features were less shrunk and flattened than one would have pre-supposed. The face was tattooed, though not in exactly the same style as that of Tupai Cupa. Several of these embalmed heads have, within a few years, been exhibited in this country.

ANOTHER FRAGMENT OF HISTORY.

KING ARTHUR.

Prince Arthur, or King Arthur, as he was commonly called, was a British warrior who flourished about the beginning of the sixth century. He is said to have been famous for his success against the then troublesome Saxons, over whom, it is stated (though not without room for doubt) that he obtained the victory in twelve fierce engagements. He was, at length, mortally wounded in a war with his nephew, in personal combat with the nephew himself. He was carried to Glastonbury where he soon after died, and his remains

were silently buried at Glastonbury; but for reasons unknown at the present time, his friends carefully concealed the fact of his decease.

This concealment gave rise to many curious and superstitious notions. The opinion became current that he was still living, somewhere; and would revisit and reign over the nation. An ancient author says that as late as his day, viz. near 600 years after Arthur's death, had any one in Bretagne ventured to express a doubt of his still continuing in life, he would have been stoned to death by the people.

But in the time of Henry the Second, after diligent search by the Abbot of Glastonbury, a singular coffin was found which contained the remains of King Arthur, as was well known by certain marks which could not be questioned. The coffin was the trunk of a huge oak hollowed out, and was found at the depth of sixteen feet.

But for several hundred years after, not a few of the people still clung to the vain notion that he would yet return to them. An ancient Chronicle, printed in 1493, speaking on the subject says; "for men thereof yet have doubte, and shallen for ever more, for men wyt not whether that he lyveth or is dede."

The engraving represents the ruins of Glastonbury Abbey, and the place where King Arthur was buried.

A VALUABLE OAK.

We are not overfond of the marvellous, but we find it rather difficult to resist an inclination to publish the following. It is derived from the Edinburgh Chambers' Journal; and is fully equal to

some of the stories of large trees in our western country.

The large Golenos oak, which was felled in the year 1810, for the use of his Majesty's navy, grew about four miles from the town of Newport, in Monmouthshire. The main trunk, at ten feet long, produced 450 cubic feet; one limb, 355; one, 453; one, 235; one, 156; one, 113; one, 106; and six others 93 each; making the whole number of 2,426 cubic feet, (equal to nearly 19 cords) of sound and merchantable timber."—"The bark was estimated at six tons."—"Five men were twenty days in cutting down this tree," and two men were five months in sawing it, without losing a day except Sundays.

The main trunk of this tree was nine feet and a half in diameter, and the number of rings in the wood over 400; so that the tree must have been at least 400 years in coming to maturity. It was sold standing for £405; and the produce of it, when carried to market, was within a trifle of £600.

Exhilarating Gas. It gives us very great pain to hear, that people inhale the *exhilarating* gas, as it is called. Now this gas is well known to be as injurious to the human system, as any other unnecessary stimulus; except that this has a mode of operation which is more rapid. We caution the young, especially, to swallow no *gas* of any kind (but that happy mixture of oxygen and nitrogen of which the Creator has formed atmospheric air,) as long as they can avoid it. Various gases may be inhaled as *medicines*, under the eye of a judicious physician; but beware of using them *in sport!*

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